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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

SEP 15 2000

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Christopher T. Penny
Navy Technical Representative
Installation Restoration Section (South)
Environmental Program Branch
Environmental Division,
Atlantic Division (LANTDIV), Code 182
Naval Facilities Engineering Command
1510 Gilbert Street
Norfolk, VA 23511-2699

Re: Naval Station Roosevelt Roads - EPA ID # PR2170027203

- 1) Revised Corrective Measures Study (CMS) Final Report for SWMU #13 and SWMU #46/AOC C, dated August 4, 2000;
- 2) Draft Remedial Design Package for SWMU #13 and SWMU #46/AOC C, dated July 10, 2000;
- 3) Revised Corrective Measures Study (CMS) Work Plans for SWMUs #1 and 2, and SWMU #45, dated July 14, 2000; and
- 4) Draft Corrective Measures Study (CMS) Work Plan for SWMU #9, dated July 14, 2000.

Dear Mr. Penny:

The United States Environmental Protection Agency (EPA) Region 2 has completed its review of the above documents transmitted on behalf of the Navy by Baker Environmental Incorporated. EPA's comments on the above documents are given below.

Revised Corrective Measures Study (CMS) Final Report for SWMU #13 and SWMU #46/AOC C, dated August 4, 2000

EPA has reviewed the revised CMS Final Report for the above SWMUs and AOC [one document covering all 3], submitted on behalf of the Navy by Baker Environmental Inc., on

August 4, 2000, as well as your August 22nd letter. The revised CMS Final Report for the above SWMUs/AOC was submitted to address EPA's comments in my letter of March 15, 2000. The proposed remedy for SWMU #13 (demolished former Pest Control Shop and nearby pesticide contaminated drainage ditch) involves excavation of pesticide contaminated sediments in a drainage ditch near the former Pest Control Shop. The proposed remedy for SWMU #46/AOC C (both areas were used for non-serviceable transformer and other electrical equipment storage, and/or storage of PCB contaminated materials) involves excavation of PCB and PAH contaminated soils. Based on our review, the Revised CMS Final Report for SWMU #13 and SWMU #46/AOC C, dated August 4, 2000, is now approved.

Draft Remedial Design Package for SWMU #13 and SWMU #46/AOC C

EPA has completed its review of the documents "Draft Basis of Design Removal Action for SWMU #13 and SWMU #46/AOC C" ("the Design Document") as well as the associate "Technical Specifications Removal Action" document, both of which were submitted on behalf of the Navy by Baker Environmental Inc's letter of July 10, 2000, which were submitted in response to my letter of March 15, 2000 commenting on the January 26, 2000 draft Final CMS reports for these SWMUs/AOC. The remedy for SWMU #13 described in the Design Document involves excavation of approximately 22 cubic yards of pesticide contaminated sediments in a drainage ditch near the former Pest Control Shop. The remedy for SWMU #46/AOC C described in the Design Document involves excavation of approximately 54 cubic yards of PCB and PAH contaminated soils.

While EPA finds the Design Document to be essentially acceptable, it is not sufficiently complete to be approved as the Corrective Measures Implementation (CMI) Workplan for these SWMUs and AOC, as requested in my letter of March 15, 2000. In order to be an acceptable CMI Workplan, it must contain a proposed implementation schedule, and of course, should be titled the Corrective Measures Implementation (CMI) Workplan, to clearly reflect that proposed corrective measure constitutes the final remedy for these SWMUs and AOC, and is not an interim remedial measure. Accordingly, EPA requests the Navy to modify the Design Document to include a proposed implementation schedule, and re-submit it within 45 days of your receipt of this letter, as the CMI Workplan for SWMU #13 and SWMU 46/AOC C.

Because the "Technical Specifications Removal Action" document is prepared for the purposes of soliciting bids by contractors to perform this work, and not part of the actual CMI Work plan, EPA will not comment on it.

Pursuant to Condition III.E.9 of the facility's 1994 RCRA Operating Permit, a permit modification to designate the CMI final remedy for SWMU #13 and SWMU #46/AOC C will be required, and, as noted in previous correspondence, it must undergo public notice and public comment before the final remedy can be considered fully approved. However, as also noted in

previous correspondence and verbal discussions, in lieu of initiating a permit modification at this time, this action may be incorporated into the Draft renewed RCRA permit for the facility, when completed (not expected until Q/4 of FY'01), and subject to public notice and public comment pursuant to 40 CFR § 124.10. If public comments are received on a remedy, EPA reserves its right to re-open that CMI remedy decision.

Revised Corrective Measures Study (CMS) Work Plans for SWMUs #1 and 2, and SWMU #45, dated July 14, 2000

EPA has reviewed the two revised CMS Work Plans for the above SWMUs, submitted on behalf of the Navy by Baker Environmental Inc., on July 14, 2000, as well as your July 13th Response to EPA's comments of May 4, 2000 on the Draft Work Plans for those SWMUs. A single combined work plan was submitted for SWMUs #1 and 2, since they are both unlined former landfills located adjacent to one another along the flanks of Ensenada Honda, a marine bay. A separate work plan was submitted for SWMU #45, the outside areas associated with the former power plant, which includes a cooling water tunnel leading to Puerca Bay, where PCB and poly-aromatic hydrocarbon (PAH) contaminated sediments were detected. The Revised CMS Work Plans, which were revised to address previous comments given in my letter of May 4, 2000, are largely acceptable, except for a few small deficiencies that are discussed in the Technical Review comments prepared by EPA's contractor, Booz Allen & Hamilton, which is attached as Enclosure 1.

EPA approves the Revised CMS Work Plans for SWMUs #1 and 2, and SWMU #45, subject to the Navy complying with General Comment 2 in the enclosed Technical Review. General Comment 2 states that "... if it is not the intent of Naval Station Roosevelt Roads (NSRR) to submit a second phase screening level assessment (as identified in Figure 5-1 of the [CMS] Work Plans) to address manatees and piscivorous wildlife, NSRR should clarify how these issues will be addressed. Furthermore, NSRR should clarify where in the schedule (see figure 5-1 of the Work Plans) the second phase screening level assessment will occur. The schedule in the [CMS] Work Plans (Figure 5-1) states that the Phase II screening level assessments will be performed "if required." Figure 5-1 should be revised to depict the Phase II screening level assessment as a required component of the Corrective Measures Study."

Within 30 days of your receipt of this letter, please submit a written response and/or figures addressing General Comment 2. If for administrative purposes you prefer instead to re-submit complete Final CMS Work Plan documents, revised to address General Comment 2, that is also acceptable.

Assuming the submission is acceptable, pursuant to Condition III.E.6 of the facility's 1994 RCRA Operating Permit, implementation of the CMS Work Plans for SWMUs #1 and 2, and SWMU #45 shall commence 30 days from your receipt of EPA's letter approving that submission.

Draft Corrective Measures Study (CMS) Work Plan for SWMU #9, dated July 14, 2000.

EPA has reviewed the above Draft CMS Work Plan for SWMU #9 submitted on behalf of the Navy by Baker Environmental Inc., on July 14, 2000, as well as the July 13th Response to EPA's comments of May 4, 2000 on the RFI Final Report for SWMU #9.

EPA has a number of comments on the Draft CMS Work Plan and your July 13th Response document. These comments are given in the enclosed Technical Reviews (Enclosures 2 and 3) prepared by our contractor, Booz Allen & Hamilton, which EPA has reviewed and concurs with. Within 45 days of your receipt of this letter, please submit a revised CMS Work Plan for SWMU #9, which addresses those comments.

OCT. 11 POSTED TO WEB OR E-MAIL FOR
DRAFT REVIEW. THEN

Please telephone Mr. Tim Gordon, of my staff, at (212) 637-4167 if you have questions regarding any of the above.

Sincerely yours,



Nicoletta DiForte
Chief, Caribbean Section
RCRA Programs Branch

Enclosures (3)

cc: Mr. Jose J. Lajara, Attn. Ms. Luz Muriel-Diaz, PREQB, w/encl.
Ms. Madeline Rivera, NAVSTA Roosevelt Roads, w/encl.
Mr. Mark Kimes, Baker Environmental, w/encl.
Mr. John Tomik, CH2M Hill, w/encl.
Ms. Connie Crossley, Booz Allen, w/o encl.

TECHNICAL REVIEW

JULY 13, 2000, RESPONSE TO COMMENTS ON THE REVISED FINAL CORRECTIVE MEASURES STUDY WORK PLANS FOR SWMUS 1, 2, AND 45 AND THE JULY 14, 2000, REVISED FINAL II CORRECTIVE MEASURES STUDY WORK PLANS FOR SWMUS 1, 2, AND 45.

NAVAL STATION ROOSEVELT ROADS CEIBA, PUERTO RICO

REPA2-0203-022 AUGUST 16, 2000

GENERAL COMMENTS

1. All responses regarding SWMUs 1, 2 and 45, provided in the July 13, 2000, Response to Comments on the Revised Final Corrective Measures Study Work Plans for SWMUs 1, 2 and 45, are considered adequate.
2. The July 14, 2000, Revised Final II Corrective Measure Study Work Plan for SWMUs 1, 2, and 45 (Work Plans) are considered satisfactory with the understanding that ecological risks to manatees (SWMUs 1 and 2, SWMU 45) and piscivorous wildlife (SWMU 45) will be evaluated in a second phase of the screening level risk assessment. Statements in the Work Plans for SWMUs 1 and 2 (p. 3-17 and p. 3-32) and SWMU 45 (p. 3-16 and p. 3-29) appear to indicate that regardless of the results of the initial screening level assessment, separate draft work plans that address ecological risks to manatees (SWMUs 1, 2, and 45) and piscivorous wildlife (SWMU 45) will be submitted. Furthermore, it is assumed that these second phase work plans will specify the proposed (1) additional sample locations, sample type, and analytes necessary to address data gaps, and (2) procedures for screening ecological risks to manatees and piscivorous wildlife. However, if it is not the intent of Naval Station Roosevelt Roads (NSRR) to submit a second phase screening level assessment (as identified in Figure 5-1 of the Work Plans) to address manatees and piscivorous wildlife, NSRR should clarify how these issues will be addressed. Furthermore, NSRR should clarify where in the schedule (see figure 5-1 of the Work Plans) the second phase screening level assessment will occur. The schedule in the Work Plans (Figure 5-1) states that the Phase II screening level assessments will be performed "if required." Figure 5-1 should be revised to depict the Phase II screening level assessment as a required component of the Corrective Measures Study.

AN PREVIOUS ASSESSMENTS FOR MANATEES BIE USED FOR THIS?

TECHNICAL REVIEW

**JULY 13, 2000,
RESPONSE TO COMMENTS ON THE DRAFT RFI FOR SWMU 9**

**NAVAL STATION ROOSEVELT ROADS
CEIBA, PUERTO RICO**

**REPA2-0203-023
AUGUST 16, 2000**

GENERAL COMMENTS

1. The response is partially adequate. Naval Station Roosevelt Road (NSRR) has addressed the concerns regarding the analytical detection limits and the limited sample locations proposed for surface water and sediment. NSRR has also agreed to address the appropriateness of the sample locations selected for establishing background concentrations of chemicals in surface soil. However, NSRR has not agreed to collect additional surface soil samples. NSRR's rationale is that the suspected contaminant sources are below ground and most chemicals posing ecological risks have similar concentrations in background samples. This rationale is not adequate because (1) the number of samples collected (three to four in each area) may be too low to characterize the nature and extent of surface soil contamination in the large areas represented by areas A, B, and C, and (2) the background sample locations may be down gradient of source areas, and may not be appropriate for evaluating site-related risks.

SPECIFIC COMMENTS

1. The response is partially adequate. NSRR has addressed concerns regarding the analytical detection limits and number of surface water and sediment samples by proposing additional samples and the use of analytical methods with lower detection limits. NSRR has also agreed to retain chemicals as contaminants of potential concern (COPCs) if their quantitation limits exceed the screening benchmarks. However, it is not clear if this agreement applies to surface soils. In addition, NSRR has not addressed concerns regarding the number of surface soil samples proposed for Areas A, B, and C. As noted in previous correspondence from EPA, three to four samples may not be adequate to characterize the nature and extent of surface soil contamination in these areas. Additional surface soil samples should be collected down gradient of areas A, B, and C, and analyzed for metals, polycyclic aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons (TPH), as well as any other contaminants that may be facility related.

2. The response is partially adequate. NSRR has agreed to evaluate the appropriateness of the background data, and to not eliminate COPCs in surface water and sediment based on background concentrations. However, it is not clear if this approach applies to surface soil samples. Furthermore, the evaluation of background data should include a review of other potentially applicable information, such as United States Geological Survey (USGS) data on metals concentrations in soils in the area. - COMPARE EXISTING DATA TO REGIONAL DATA
3. The response is partially adequate. NSRR has agreed to re-evaluate pathways previously considered incomplete. However, it appears that this agreement applies only to sediment and surface water, as NSRR has only proposed new sample data for these media. NSRR should perform additional surface soil sampling as specified in Specific Comment No. 1, as well as re-evaluate exposure terrestrial pathways based on these new data.
4. The response is partially adequate. As stated in General Comment No. 1, NSRR has addressed concerns regarding surface water and sediment, but not surface soils. Specific Comment Nos. 1, 2, and 3 above identify the steps necessary to address surface soil concerns.

TECHNICAL REVIEW

**JULY 14, 2000, DRAFT
CORRECTIVE MEASURES STUDY WORK PLAN FOR SWMU 9**

**REPA2-0203-023
AUGUST 4, 2000**

GENERAL COMMENTS

1. In general, the July 14, 2000, Draft Corrective Measures Study Work Plan for SWMU 9 (Work Plan) addresses concerns regarding characterization of surface water and sediment contamination by proposing additional surface water and sediment samples with lower detection limits than previously used in the March 10, 2000, Draft RCRA Facility Investigation (RFI) for SWMU 9. However, as noted in the specific comments below, the Work Plan does not address concerns regarding the nature and extent of contamination in Areas A, B, and C surface soil. In addition, the proposed background locations for evaluating contamination of surface water and sediment appear inappropriate based on their proximity to potential source areas (see Specific Comment No. 2).

SPECIFIC COMMENTS

1.2.1 Findings of the Investigations

1. The Work Plan (p.1-2, and 1-3) summarizes the findings of the screening level ecological risk assessment for surface water and sediments, but does not mention surface soils. The Work Plan should summarize these findings and note that soil background locations and exposure pathways will be re-evaluated in the Corrective Measures Study (CMS).

3.0 CMS Investigation

2. The proposed sampling locations (p. 3-2, Fig. 3-1) for determining background concentrations of chemicals in surface water and sediment may not be appropriate. The Work Plan states that these locations "are sufficiently far from Areas B and C...yet representative of site-specific background conditions." However, the information provided in the RFI Report is inadequate to conclude these areas are appropriate for background locations. Specifically, the proposed locations are in close proximity to Tow Way Fuel Farm, the hazardous waste storage area, as well as other potential contaminant sources (e.g., AOCs 13 and 25). In addition, the conclusion that the proposed locations represent site-specific background conditions appears to be unsupported. No previous sampling data or summaries of other background data have been provided to support this statement. Background locations should be representative of natural background that has not been influenced by facility releases. Alternative background sampling locations should be selected that are more clearly representative of unimpacted areas. One area

that may be more representative, and should be considered, is the area located 2000 feet north of the currently proposed sample locations, at the perimeter of the mangroves (see Figure 3-1).

3. The Work Plan (p. 3-1) does not propose additional surface soil samples in areas A, B, and C. As noted previously in EPA's comments on the RFI report, the number of samples collected (three to four) may not be adequate to fully characterize surface soil contamination in the large areas represented by areas A, B, and C. Additional surface soil samples should be collected down gradient of areas A, B, and C. Furthermore, these samples should be analyzed for metals, PAHs, and TPH, as well as any other contaminants that may be facility related.

- MAY NOT BE NECESSARY IF SAMPLES ARE W/ BACKGROUND LEVELS

3.5 Data Evaluation

4. The Work Plan proposes (p. 3-4) five additional background samples to "further enhance the statistical population of the site-specific background database." The Work Plan should clarify that only surface water and sediment will be collected for additional background data; additional background samples for surface soil are not proposed. As noted in Specific Comment No. 3, the proposed sampling locations for determining background concentrations of chemicals in surface water and sediment may not be appropriate. Alternative sampling locations should be selected if background data will be used to evaluate site-related risks.
5. As noted in previous EPA's comments on the RFI report, the existing proposed surface soil background sample locations may be down gradient of potential source areas or areas of uncharacterized contamination. In addition, the Work Plan does not specifically state that surface soil background data will be re-evaluated in the CMS. The Work Plan should note the procedures that will be used to evaluate the appropriateness of the proposed background data. The evaluation of background data should also include a review of other potentially applicable information, such as USGS data on metals concentrations in soils in the area.

4.4 Screening Level Ecological Risk Assessment

6. The Work Plan states (p. 4-2) that data from the additional surface water and sediment samples will be incorporated into the screening level risk assessment. However, the work Plan does not mention surface soil data. The Work Plan should state that additional surface soil data (see Specific Comment No. 3) and information (background evaluation, see Specific Comment No. 5) will be incorporated into the screening level risk assessment.

5.0 Screening Level Ecological Risk Assessment

7. The Work Plan should include a Table with a preliminary species list, similar to those provided in other CMS Work Plans for the site (e.g., July 14, 2000, Revised Final II, Corrective Measures Study Work Plan, SWMU 45).

8. The Work Plan proposes to use dissolved metals concentrations in surface water to estimate contaminant concentrations in the prey of avian piscivores (p. 5-3). This procedure is satisfactory if prey concentrations are also estimated from sediment contaminants (i.e., pathway from sediment to benthic invertebrates to fish or wildlife).
9. The Work Plan proposes to use BAF (bioaccumulation factor) values for inorganic mercury and selenium if dissolved concentrations of methyl mercury and methylated selenium are not detected (p. 5-3). This procedure is unacceptable as these compounds may bioaccumulate in fish from both water exposure and dietary exposure (incidental sediment ingestion or sediment to benthic invertebrate pathway). Wildlife risks should be screened at one half of the sample quantitation limit if the methylated forms are not detected, unless site-specific information is provided that shows that only the inorganic forms are present in sediment and surface water. A useful document for estimating prey concentrations is provided below:

Bechtel Jacobs Company. 1998. *Biota sediment accumulation factors for invertebrates: review and recommendations for the Oak Ridge Reservation*. BJC/OR-112. US Department of Energy. <http://www.hsrdo.ornl.gov/ecorisk/reports.html>

10. The Work Plan proposes screening values for inorganic mercury and selenium if dissolved concentrations of methyl mercury and methylated selenium are not detected (p. 5-3). This procedure is unacceptable as these compounds may bioaccumulate in fish from both water exposure and dietary exposure (incidental sediment ingestion or sediment to benthic invertebrate pathway). In addition, methyl mercury is the predominant form of mercury in fish as well as the most toxic. This may also be the case for selenium. Wildlife risks should be screened using benchmarks for the more toxic methylated forms of mercury and selenium, unless site-specific information is provided that shows that only the inorganic forms are present in prey items.

DOESN'T W.P. PROBE
METHYL MERC. & METH.
SELENIUM AS ANALYTE

11. The Work Plan does not specifically address the surface soil to invertebrates to terrestrial omnivore pathway. The Work Plan should propose quantitatively evaluating this pathway by screening for risks to robins consuming earthworms that have been exposed to contaminated soils. A useful document for estimating prey concentrations is provided below:

Sample B. E., Suter G. W., Beauchamp J. J., and Efroymson R.A. 1999. *Literature-derived bioaccumulation models for earthworms: development and validation*. Environ. Toxicol. Chem. 18:2110-2120.

12. The Work Plan does not specifically address the surface soil to small mammal to terrestrial predator pathway. The Work Plan should at a minimum qualitatively evaluate this pathway by screening for risks to carnivorous birds (e.g., peregrine falcon is listed in the SWMU 45 Work Plan) consuming small mammals. A useful document for estimating prey concentrations is provided below:

Sample B. E., Beauchamp J. J., Efroymsen R.A., and Suter G. W. 1998. *Development and validation of bioaccumulation models for small mammals*. ES/ER/TM-219. US Department of Energy. <http://www.hsrdoeml.gov/ecorisk/reports.html>.