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32501.002
09.01.02.0019

Virginia B. Wetherell
Secretary

June 22, 1995

N00204.AR.000943
NAS PENSACOLA
5090.3a

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Bill Hill
Code 1851
southern Division
Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, South Carolina 29419-0068

RE: Draft Remedial Investigation (RI) for Site 2 (Pensacola Bay Waterfront), 'Naval Air Station Pensacola.

Dear Mr. Hill:

I have completed the technical review of the subject document, dated February 24, 1995 (received February 28, 1995). The recommendation of No Further Action for this site is not appropriate due to the following comments, including Departmental comments (see attachments) from Ms. Mora-Applegate and Ms. Fugler, as well as comments from Dr. Roberts (University of Florida):

1. Site History (Section 2.2): Besides noting that approximately 83 million gallons of untreated industrial wastes were dumped into Pensacola Bay near Site 2, this section should state that Site 38 (NADEP Building 71 and the associated IWTW Sewer Line), located directly upgradient of Site 2, has groundwater contamination that contacts the seawall (and has spread along the seawall) that probably discharges to Pensacola Bay.
2. With the highest sediment contamination closest to the discharge outfall of Building 71 (location H1), and a groundwater plume emanating from the Building 71 area, that contacts the seawall and has spread east along the seawall and possibly into Pensacola Bay; sediment and surface water samples should be collected in Pensacola Bay adjacent to where the groundwater contamination contacts the seawall (near and slightly east of monitoring well 38S13 - see Figure 7-14 from the December 8, 1994 RI for Site 38). Sediment samples should also be collected to the west of location U1,

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where outfall 3 discharges (Figure 4-3). Note, the proximity of these contamination sources to the Bay supercedes the argument not to sample these areas due to non-fine grained sediment/low TOC as areas of probable low contamination.

3. The conclusion of this document directly contradicts the Tier I Partnering Team decision agreed to by all agencies (Conference call, February 8, 1995). The decision was that this site is not appropriate for No Further Action due to metals, DDT, PCBs and PAHs in sediments above SSVs, and that ten sediment toxicity bioassay samples should be collected. This decision was based on previous Tier I Team decisions, that if contaminant levels detected in sediments are above SSVs, Phase II assessment (toxicity bioassay sampling) would be conducted to determine if ecological receptors are effected. Again, FDEP strongly recommends the necessity of toxicity samples, as stated in the comments to the November 1994 Technical Memorandum, the conference call, the last partnering meeting, and in the enclosed comments to the risk assessment from Ms. Fugler and Ms. Mora-Applegate. A workplan describing the specific location of the samples, the test organisms, detection limits, etc. should be submitted before these samples are collected. The workplan should be submitted after the additional sediment samples requested in Comment No. 2 are obtained, unless bioassay toxicity samples are collected currently. Then, when all the samples have been collected and analyzed, the draft RI should be resubmitted.
4. Appendix A: Though CLP protocol was followed for sampling, detection limits are above CLP PQLs in sediments, and above Florida Surface Water Quality Standards (62-302 F.A.C.) for surface water (lead, mercury, nickel, silver, DDT, PCBs, dieldrin, and endrin). Other analytical methods (such as SW-846) should be used when analyzing the recommended additional sediment samples (Comment No. 2) and the toxicity bioassay samples (Comment No. 3); so the detection levels are at or below the new Florida Sediment Quality Assessment Guidelines (November 1994). Note, the argument of detection limit problems due to matrix interference does not discount exceedances. If matrix interference is a problem then alternative analytical methods should be used.
5. Contaminants detected in surface water should be documented in a table, as the sediment data was presented,

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If I can be of any further assistance with this matter,
please contact re at (904) 921-9989.

Sincerely,



David M. Cloves, P.C.
Remedial Project Manager

/dmc

cc: Ron Joyner, NAS Pensacola
Allison Humphris, EPA Region IV
Henry Beiro/Brian Caldwell, Ensafe, Pensacola
Phil Crotwell, Bechtel, Knoxville, TN
Tom Moody, FDEP Northwest District
John Mitchell, FDEP Natural Resource Trustee

TJB B JJC jjc ESN ESN

Memorandum

Florida Department of Environmental Protection

TO: David Clowes, DOD Facilities Technical Review

THROUGH: Jim Crane, Bureau of Waste Cleanup *JJC*

FROM: Jane Fugler, Hazardous Waste Sites Technical Review *AF*

DATE: April 7, 1995

SUBJECT: Risk Assessment Review for NAS Pensacola Site 2

I have reviewed the risk assessment portion of the February 24, 1995 "Draft Remedial Investigation Report for Site 2, NAS Pensacola". I do not recommend concurrence with the no further actions that are proposed until the following concerns are addressed.

Ecological Risk Assessment

1. The risk assessment (RA) document should be a stand-alone document, since it is usually reviewed by someone other than the Project Manager. Therefore, the following information is expected in a RA, which was not included here:
 - a. A list of the state's threatened and endangered (T & E) species expected to be found at this site;
 - b. A list of the aquatic and T & E species observed at this site;
 - c. A data summary table for all contaminants detected in each media and that contains the frequency of detection, range of detects, average concentration and background concentration (from site specific studies);
 - d. A brief sentence of which guidances were used for this RA and any deviations from those guidances;
 - e. The environmental setting;
 - f. Contaminant fate and transport mechanisms that may exist at the site;
 - g. Ecotoxicity associated with contaminants and likely categories of receptors that could be affected; and
 - h. The complete exposure pathways that may exist at the site from contaminant sources to receptors that could be affected.
2. The Department has established new sediment quality assessment guidelines that should be applied here. It appears the Federal numbers were used and not FDEP's for this study. Attached is a copy of this list, the TEL values are used as the Sediment Screening Values (SSV).
3. CLP analytical methods were used instead of the sediment digestion methods FDEP used for the coastal sediment study. This is like comparing apples and oranges. Also, there is repeated reference that this site is no worse than areas nearby based on the coastal sediment study; this study included non-developed and highly developed areas. On-site naturally occurring

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MEMORANDUM

David Clowes, Technical Review Section

April 7, 1995

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background levels should be used for comparison, if they want to challenge the guidance values and standards.

4. All the metals discussed Ar, Cd, Cr, Cu, Pb, Hg, Ag, Zn and total PAH, total DDT, and PCBs showed detections above the federal SSVs. I disagree with their conclusion that no further action is needed; further assessment should be pursued for the contaminants that were not included (see comment 1c) and all the contaminants that exhibit complete exposure routes or toxicity to the potential receptors. The most recent draft from EPA September 26, 1994 "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments" discusses the steps needed for a RA. In addition, Silver was not included in Tables 10-1 and 10-2, but was included in the discussion. Nickel was analyzed, but not included in the discussions or tables. A brief review of the sediment lab data found the detection limits varied greatly between samples. There may be more detects than indicated.

5. The sediment sample description on page 5-9 explains that the samples were collected with a split-spoon sampler, transferred into a stainless steel bowl, then put into sample jars, and later VOC analyses were conducted on these samples. Page 5-19 explains they were collected first to minimize degassing. Which is correct? I recommend more care in reducing volatile compounds during sample collection, such as collecting directly from the core before removal from the split-spoon.

6. Page 4-11 lists wastewater containing radium paint waste as a potential contamination source for this site. Was radium analyzed for in previous studies and later determined to not be a concern?

7. It was stated the surface water was not a concern, however I understand there was matrix interference during the water analyses. Surface water contamination should be reassessed.

8. Figure 4-3 shows outfall J west of seaplane ramp 384 and Building 76. Figure 5-1 shows the transects used for sediment sampling, however this outfall was not included in the transects. Sample location U1 is the nearest to this outfall and showed contamination. This outfall should be considered for further assessment.

Human Health Risk Assessment

9. On page 10-44, first paragraph, second sentence, your name is misspelled "Davi Clowes".

10. They used 20 g/d for fish ingestion rate which is fine. However, HRS/DEP is in the process of developing more accurate ingestion rates for different fish groups (i.e. finfish and shellfish), they currently recommend using 30 g/d and EPA's guidance (March 7, 1995, Risk-Based Concentration [RBC] Table) recommends 54 g/d.

11. Sediment and surface water contact should be consider as potential risks. Ensafe has already stated that crab fishing occurs at this site. It is reasonable to assume that occasional swimming will occur (intentional or otherwise). If this has already been considered, the justification for exclusion should be included.

12. There are inconsistencies between the text and figures. Figure 10-9 lists the exposure frequency as 175 d/yr, but page 10-50 states an exposure frequency of 365 d/yr. The 175 days are acceptable, if it is true that crabbing only occurs here for six months within a year.

13. Based on the latest RBC guidance, the AT-N should be 10,950 for adults and the exposure duration, 30 m tables 10-7 and 10-9. Also, there is no distinction between adults and children for the fish consumption rates in the RBC.

14. In Table 10-9, o and n footnotes are not listed.

15. NO explanation was provided why subsistence fisherman were not included. This would change the ingestion rate and other parameters.

16. The crabs are not good representatives of Site 2 aquatic inhabitants, because of their mobile nature. Unless the contamination detected is specific to Site 2 or the crab's habitat is within Site 2, other consumable species must be used for the food ingestion route that meet this criteria.

/sf

cc: Ligia Mora-Applegate

Memorandum

**Florida Department of
Environmental Protection**

TO: David Clowes, DOD Facilities, Technical Review Section, BWC

THROUGH: Jim Crane, Technical Review Section, BWC *JJC*

FROM: *[Signature]* Ligia Mora-Applegate, Technical Review Section, BWC

DATE: April 17, 1995

SUBJECT: Risk Assessment Section for NAS Pensacola Site 2
Pensacola, Florida

I have reviewed the above mentioned Section I have also reviewed Dr. Stephen Roberts' (UF toxicologist on contract to FDEP) comments. In addition, I have also read and discussed Jane Fugler's comments with her. I concur with Dr. Roberts and Ms. Fugler, and recommend that their concerns be addressed. I also have the following comments for your considerations:

1.0 As discussed with you and Jane, the document does not stand on its own.

2.0 The FDEP sediment screening criteria are exceeded. In my opinion, a sediment toxicity bioassay should be conducted.

3.0 The units in Table 10-15 need to be specified.

4.0 The FDEP acceptable risk level is 1.0E-06.

cc: Jane Fugler

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APR 16 1995

One Progress Boulevard, Box 17
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TECHNICAL REVIEW SECTION

April 14, 1995

Ligia Mora-Applegate
Bureau of Waste Cleanup
Florida Department of Environmental Protection
Room 471A, Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Ms. Mora-Applegate:

At your request, I have reviewed the baseline risk assessment (Section 10) from the *Draft Remedial Investigation Report for NAS Pensacola Site 2*. While the baseline risk assessment appears fundamentally sound, though rather brief, there are several aspects that require further justification or clarification. These are identified in the comments below:

1. On page 10, the document states, "Species having the highest potential for contamination effects would include sessile benthic macroinvertebrates and other mobile species closely associated with the sediments such as crab, shrimp, and flounder." Each of these species represents a possible source of contaminant exposure for humans from ingestion, though the risks from only one (blue crabs) are estimated in the baseline risk assessment. The document contends that the estimation of risk based on ingestion of blue crabs (for 6 months out of the year) is conservative, but presents no clear rationale why it is necessarily more conservative than ingestion of other shellfish species or flounder. The assumption that risks from ingestion of blue crab would be as high, or higher, than risks from ingestion of other species is key to the evaluation of baseline human health risks and must be more clearly and carefully defended.
2. In Section 10.2.2, sediment concentrations should have been compared also with FDEP Sediment Quality Assessment Guidelines (SQAG), although the overall conclusions would not change substantially. SQAGs values are somewhat higher than the USEPA Region IV SSVs for most of the contaminants in question here, though lower for total PAHs.
3. Table 10-15: Concentration units are not specified. Some appear to be in ppm, while others are in ppb.
4. pg 10-22, line 9: should read, "Except for Stations A2, D1, and F2 .."
5. pg 10-24, "Silver": Not listed in either Table 10-1 or 10-2.
6. pg 10-39, last 2 lines. and pg 10-40, 2nd complete paragraph: A COC should be carried through the risk assessment as a COC if it poses a risk > 10⁻⁴, regardless of whether the pathway risk is > 10⁻⁴. Using a 10⁻⁴ cancer risk as a threshold for

concern for an exposure pathway may reflect current USEPA policy, but is inconsistent with FDEP cancer risk goals.

7. Maximum concentrations of selenium and aldrin exceeded their screening values, yet these chemicals were eliminated as COCs based on comparison with a "reference concentration" (Table 10-4). This reference concentration was defined as twice the background concentration (pg 10-39), which was apparently measured at a single location. The very limited sampling upon which the reference concentration is based raises serious questions about the validity of its use to define COCs. Under the circumstances, selenium and aldrin probably should have been retained in the baseline risk assessment.
8. pg 10-40, line 5 under "10.3.3.5 COPCs in Tissues": "... are denoted in the tables by the numerical symbols of 4 and 5." Symbols 4 and 5 do not appear in the tables.
9. pg 10-40, line 6 under "10.3.3.5 COPCs in Tissues": "... shown in Table 10-5" should read Table 10-4.
10. pg 10-48, first paragraph, lines 6-8: This sentence indicates that the 95% UCL was used to compute risk (if less than the maximum concentration), while other portions of the document indicate that only the maximum concentration was used (see pg 10-45, last two sentences and pg 10-67, line 5 under "Statistical Estimation of Exposure Point Concentrations"). Which is it?
11. pg 10-50, second paragraph under "10.3.4.5", last sentence, and elsewhere in the document: The exposure frequency is listed here as 350 days, but elsewhere (e.g., Table 10-7) as 175 days. Which is it?
12. pg 10-52: The tissue intake rate- ages 1-6 is listed here as 20,000 mg/day, but in Table 10-7 as 2,000 mg/day.
13. Table 10-7: More contradictions. Footnote "b" says the exposure frequency is 350 days/year, while the tabulated value above is 175 days/year. Also, there is no footnote corresponding to superscripts "n" and "o" appearing in the table.
14. Table 10-9, pg 10-63: Confusion regarding the assumed ingestion rate and exposure frequency (see Comments 11 and 12, above) affect the risk calculations in Table 10-9. For example, the cancer risk and adult HQ calculations are correct if an exposure frequency of 350 days per year is assumed (but not 175 days per year). The child HQ is correct if an ingestion rate of 20,000 mg tissue/day is assumed, and not 2,000 mg/day as stated in Table 10-7.

If you have any questions regarding these comments, please do not hesitate to contact me.

Sincerely,



Stephen M. Roberts, Ph.D.