UNITED STATES ENVIRONMENTAL PROTECTION
REGION IV
345 COURTLAND STREET. N.E.
ATLANTA. GEORGIA 30365

AUG 03 1994

4WD-FFB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Commanding Officer
Attn: Mr. Bill Hill - Code 1851
Southern Division
NAVFACENGCOM
P.O. Box 190010
North Charleston, South Carolina 29419-9010

SUBJ: Draft Final RI/FS Work Plans for OUs 15-17;
NAS Pensacola, Florida
EPA Site ID No.: FL 9170024567

Dear Mr. Hill:

The Environmental Protection Agency (EPA) has completed its review of the Draft Final RI/FS Work Plans for Operable Units (OUs) 15-17 (Bayou Grande, NASP Wetlands and Pensacola Bay, respectively). Our comments are enclosed. A revised version of these Draft Final Work Plans which incorporates our comments must be received in this office as soon as possible so that these work plans can be finalized in accordance with the December 17, 1994 deadline established in the approved FY94 Site Management Plan.

Please contact me at (404) 347-3016 if you have any questions regarding our comments or wish to discuss this issue further.

Sincerely Yours,

Allison D. Humphris
Remedial Project Manager
Department of Defense Remedial Section
Federal Facilities Branch

Enclosure

cc: Ron Joyner, NAS Pensacola
Eric Nuzie, FDEP
Henry Beiro, EnSafe

TECHNICAL REVIEW *AND* COMMENTS
DRAFT FINAL RI/FS WORK PLANS FOR
SITE 40 (BAYOU GRANDE) & SITE 42 (PENSACOLA BAY)
NAVAL AIR STATION (NAS) PENSACOLA
PENSACOLA, FLORIDA

COMMENTS APPLICABLE TO BOTH SITES:

1. Forward:
During the January RPM Meeting in Atlanta, EPA stated that the Sediment Screening Values to be used in conducting ecological risk assessments should be determined as follows: 1. Examine the available Effects Values (EVs) for each chemical. Three sets of such values currently exist (see Attachment A, footnotes). 2. Compare these EVs with the Contract Laboratory Program Practical Quantitation Limits (CLP PQLs). 3. For each chemical, select the lowest EV which equals or exceeds the CLP PQL. This value will serve as the Sediment Screening Value for that chemical. If all three EVs are below CLP PQL, then the CLP PQL will serve as the Sediment Screening Value for that chemical.

2. Executive Summary, Paragraph 3:
The state of Florida does have promulgated surface water standards, and EPA has Ambient Water Quality Criteria. However, only a few sediment criteria have been proposed by EPA to date; the Agency primarily uses sediment screening values. The Florida Sediment Quality Assessment Guidelines have not been promulgated as sediment criteria; they are intended for use as guidelines only. Please revise the second sentence of this paragraph accordingly.

3. Section 1.0, Final Paragraph:
See EPA comment #6 on the CSAP regarding the submittal of supporting documents (e.g. SAPs) and technical memorandums for these sites. Also, the maps estimating the direction of groundwater flow "to be submitted under separate cover" (response to EPA Comment 5 for Sites 40/42) should be included in the SAP, so that they can be used to select appropriate groundwater sampling locations.

4. Section 2.3.4, Aquifer Classification:
The surficial aquifer should be classified as Class I: potential or actual discharge to a sensitive ecological environment.

5. Figure 3-1(A/B):
Per the Navy's response to EPA Comment 7 for Sites 40/42, these figures should be revised to illustrate the entire length of the IW Line (Site 36).

6. Section 3.2:
A. **However, only when contaminants from a UST site mix with

contaminants from a CERCLA site will contamination be addressed under CERCLA." Clarify in the text how this information will be tracked and relayed to Navy personnel involved in oversight of the CERCLA program in order to ensure appropriate and timely incorporation of such contaminant investigations into the investigations for Sites 40 and 42. Also, it would seem that once a contaminant enters an open water body (e.g. Sites 40 and 42), the chance for mixing is greatly enhanced. Finally, at one meeting, FDEP personnel indicated a preference for dealing with any contamination located in one of these water bodies (petroleum or otherwise) under the CERCLA program, since the state UST program does not routinely require in-depth ecological risk assessments.

B. "However, the USEPA's investigation did not address the ecological aspects of contamination or a comparison with a reference area. Sample locations are not certain..." Please delete this text and replace with the following text: "Due to equipment malfunctions, some sampling locations were not precisely identified...". Also, all chemical data collected in this study was of the highest quality: suitable for inclusion in the RI Report for these sites. The text should be modified to indicate that this will be done.

7. Section 3.3, Figure 3-2:
A. Bayou Grande and Pensacola Bay are not, per se, receptors. The organisms which reside (or conduct recreational activities) in these water bodies are the receptors. Please revise the text and figure accordingly.

B. The media which comprise the Bayou and Bay (i.e. surface water, sediments, particulate matter) can behave as <u>both</u> sources and pathways, as is noted for these same media in the case of the 16 terrestrial sites (top half of Figure 3-2). Figure 3-2, and the text where appropriate, should be revised to reflect this dual "role". The distinction between source and pathway is critical in selecting appropriate remedial actions. If contaminants in the Bayou/Bay are actually behaving as sources, then remediation of the Bayou/Bay may be necessary; if the concentrations are low enough that these media are more aptly classified as pathways from a source to a receptor, then remedial action should focus on that source, rather than the Bayou/Bay per se (e.g. through revisitation of an earlier ROD completed for a terrestrial site).

8. Section 3.3, Paragraph 4:
Please revise the fourth and fifth sentences as follows: "Once received by Bayou Grande, contaminants dissolve into the water column, adsorb onto suspended particulate matter in the water column, or accumulate in the sediments of the Bayou. Bayou Grande surface waters and sediments then become the primary source of contaminants." Revise the corresponding text in the

work plan for Site 42 in a similar manner.

9. Section 4.0:
A. In general, Sections 4 and 5 should contain at least as much detail regarding the proposed three-phased investigatory approach as the Navy has provided in the response to EPA Comment 8 for Sites 40/42. Please revise the text as needed to ensure that this is the case.

B. Revise the first sentence of this paragraph to indicate that the objective of the Remedial Investigation (RI) for these sites is to appraise the effects of contamination in these water bodies on all plants and animals, including humans. This goal is indicated in the second sentence of this section, which states that the remedial actions selected must be sufficient to protect both human health and the environment.

C. "Information from all phases will be incorporated into an ecological risk assessment." Please revise this sentence, and similar sentences and tables throughout the text, to indicate that the information gathered during the RI will be used to perform both an ecological and a human health risk assessment.

10. Section 4.2, Paragraph 4:
Please revise the first sentence to make it clearer. For example: "The actual environmental values to be protected (known as assessment endpoints) must also be determined." Expand the second sentence (and the last two sentences) to explain the basis or evidence used to determine whether the assessment endpoints might have been altered in relation to site contaminants. The third sentence does not make sense; was a portion omitted? Was it meant to discuss measurement endpoints, rather than assessment endpoints? Also, "socially or economically valuable species" are not the only species of importance; ecologically valuable species are also a concern.

11. Section 4.2, Paragraph 5:
A. Regarding the establishment of reference or control areas, it may be advisable to identify two such areas, given the size and dynamics of these water bodies. The Navy appears to be considering such an approach, given the response to EPA Comment 19.C. for Sites 40/42. However, the reviewer was not able to locate the indicated discussion on statistical determination of background in the revised work plans. Please clarify.

B. It is recommended that Bayou Texar not be used as a reference or control, based on the contamination of this Bayou found in past studies conducted by Dr. G.A. Moshiri of the University of West Florida (reference citations can be provided upon request).

12. Section 4.2.1:
The term "sediment depth" may be misleading. A clearer phrase

might be "water column depth" or "depth to sediments".

13. Section 4.2.2:
Hot spot samples should be compared to two times the mean background concentration, not two times the maximum background concentration. Please correct both here and throughout the Work Plans.

14. Section 4.3, Contaminant Release, Migration and Fate Data Quality Objectives:
The second bullet should also address ground water discharging directly into these water bodies.

15. Section 4.4.1:
For a "hot spot", sampling a surface water location "at an area as close as possible to the shore" might not yield appropriate information. (For example, during the May meeting, it was mentioned that the surface water samples might be collected at offshore transect nodes nearest the shoreline, to provide a surface water and sediment sample pair). It is recommended that this phrase be reworded to read "at an area near the shore", and that the appropriate offshore distance be determined after the Phase I information is evaluated. Also, it would be valuable to collect a nearshore surface water sample in the vicinity of any surface water and/or ground water migration pathways from upland sites/source areas.

16. Section 4.4.1, Evaluating Contaminant Levels:
A. If contaminants are detected at levels below background, the following questions should be posed before making the final determination to cancel further investigation: (i) have any of these contaminants also been detected at one of the 16 terrestrial sites? (i.e. is there a possible link between the detected contamination and a known source at NAS Pensacola?) (ii) can this contamination cause adverse ecological effect? If the answer to either question is yes, further discussion and consideration should be made before finalizing any decision regarding further investigation. Please revise Figure 4-2 and the corresponding text accordingly.

B. Revise the final sentence of this section to read: "If signficantly low levels of contaminants are present, it must be determined whether or not they can cause an adverse ecological effect."

17. Section 4.4.1, Ecological Effects Levels - Sediment:
A. The term "sediment quality criteria" should be used only in reference to the U.S.EPA criteria developed for non-ionic organic compounds. The Florida sediment numbers are called "sediment quality assessment guidelines" (SQAGs). The NOAA values can also be referred to as guidelines (as stated in the NOAA 1990 document cited in the text). A good general term is "sediment screening

values". Please check this section, as well as the remainder of the Work Plans, to ensure that appropriate terminology is used.

B. Please revise the seventh sentence in the second paragraph of this subsection to read: "Any site having site-specific contaminants found at concentrations above a benchmark may be studied further depending on the bioavailability of contaminants in the substrate." Please revise the final sentence to read: "Any sites having values below this benchmark may still be studied further, particularly if contaminants in the substrate are markedly bioavailable.

18. Section 4.4.1. Data Gaps:
The use of models is acceptable. However, depending upon the assumptions used and the uncertainties associated with the model, field verification may be needed,

19. Section 4.4.3:
Insert the word "tests" between "toxicity" and "depends" in the fifth sentence.

20. Figure 4-3:
Other measurement endpoints such as growth and changes in morphology or biochemistry can be used; would these fall under "Other Screening Techniques"?

21. Section 4.6:
As indicated in comment 6. above, the text throughout this work plan should be revised to clearly indicate that both an ecological and a human health risk assessment will be completed for these RI/FS sites.

22. Section 5.1:
A. Revise the work plan text to include the basis for increasing the transect interval toward the western portion of both the Bay and the Bayou (e.g. fewer migration pathways from terrestrial sites?..).

B. "After this phase is completed, a technical memorandum will be submitted outlining sampling locations and parameters for Phase IIA analysis." This text appears to contradict the Navy's response to EPA Comment 8 for Sites 40/42, which states that during Phase I, "...sediment samples will be collected...along the transect... [and] submitted for analysis of grain size and total organic content." Please clarify.

23. Figures 5-1A/B/C:
The text states that the transects will be located perpendicular to the coastline, but the figures show the transects in north-south and east-west orientations, which are not always perpendicular to the coastline. Please clarify.

24. Section 5.2:
A. Specify which types of laboratory analyses will be performed for these samples, as well as samples of other media. Or indicate that this information will be provided in some other portion of the Work Plan (e.g. the SAP?). See the Navy's response to EPA Comment 26B. for Sites 40/42.

B. "Surface water samples will be collected first from 1 foot above the bottom." Surface water samples may also be needed from the upper portion of the water column in areas potentially affected by surface water run-off from terrestrial sites. In general, the Work Plan text should reflect the Parties' decision to collect surface water samples as indicated in the Navy's response to EPA Comment 25 for Sites 40/42.

25. Section 5.7:
A. This section indicates that the Navy will submit a document which presents a development and screening of alternatives prior to submitting the full FS (including the detailed analysis of alternatives). Submittal of such a document would likely prove helpful in focusing the FS. However, if it is submitted, then the SMP schedules should be modified accordingly, and chapter 4 of the document: Guidance for Conductina Remedial Investiaations and Feasibility Studies Under CERCLA (October 1988) and other pertinent guidance should be followed.

B. "Analysis of potential remedial activities will focus on transport mechanisms from the suspected source sites and on existing contamination." As indicated in the Navy's response to EPA Comment 27 for Sites 40/42, "The FS for [the subject water body] will focus on potential remedial alternatives for [that water body] itself." Please revise the Work Plan text to state this goal more clearly. See also comment 5 above.

26. Navy Responses to EPA Comments for Sites 40/42:
The responses to comments 20, 21, 22, 26A., may be acceptable. However, since the indicated information was not incorporated into the Work Plans, the adequacy of the response is uncertain, and the Work Plans cannot be considered for approval.

COMMENTS APPLICABLE ONLY TO SITE 40 (BAYOU GRANDE):

1. Section 2.4:
Preface this section with a brief explanation as to why studies of the Pensacola Bay area have been included in the present Work Plan.

Several studies have been conducted of Bayou Grande in the vicinity of NASP (e.g. EPA/ESD, 1992; EPA/Gulf Breeze Lab, ongoing). These studies should be listed and described as well, particularly since the current listing includes only studies of Pensacola Bay.

2. Figure 3-1A and 3-1B:
Per the Navy's response to EPA Comment 3 for Site 40, the locations of all intermittent streams should be added to these figures.

3. Figures 5-1A/B:
Per the Navy's response to EPA Comment 8B. for Site 40, the locations of the Total Water Quality stations to be deployed should be provided in these figures. The text should also indicate what types of measurements will be taken.

4. Navy Response to EPA Comment 9 for Site 40:
The response is adequate, provided that all of the requested locations are sampled and the samples are collected during roughly the same time periods as the Phase II field work to be performed for this site (e.g. temporary well sampling, surface water sampling, staff gauge measurements).

COMMENTS APPLICABLE ONLY TO SITE 42 (PENSACOLA BAY):

1. Figures 5-1A/B/C:
Per the Navy's response to EPA Comment 8B. for Site 42, the locations of the Total Water Quality stations to be deployed should be provided in these figures. The text should also indicate what types of measurements will be taken.

2. Section 5.4:
Earthworms, larval midges, fathead minnows, etc. may be appropriate for terrestrial/freshwater toxicity tests, but they are not appropriate for testing media from an estuary such as Pensacola Bay.

3. Navy Response to EPA Comment 9 for Site 40:
The response is adequate, provided that all of the requested locations are sampled and the samples are collected during roughly the same time periods as the Phase II field work to be performed for this site (e.g. temporary well sampling, surface water sampling, staff gauge measurements).

TECHNICAL REVIEW *AND* COMMENTS
DRAFT FINAL RI/FS WORK PLAN FOR
SITE 41 (NASP WETLANDS)
NAVAL AIR STATION (NAS) PENSACOLA
PENSACOLA, FLORIDA

1. The following comments which were provided for Sites 40 and 42 are also applicable to the Draft Final RI/FS Work Plan for Site 41: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11A, 13, 16, 17, 18, 19, 20, 21, 22, 24 and 25.

2. Section 2.2:
"Based on the limited knowledge of the wetlands at this stage of the investigation, the wetlands to be studied or the number and location of sampling points is not known." As has already been noted in several instances, the wetlands at NASP are often located very proximate to, and sometimes overlap, terrestrial sites. Identification of the wetlands to be studied can therefore have a significant impact on the amount and type of data needed to complete the RI/FS for the associated terrestrial sites. Therefore, in order to minimize delays in completing the RI/FSs for terrestrial sites, the wetlands to be studied during the RI/FS for Site 41 should be identified as soon as possible.

3. Figure 2-1:
The wetlands which the Navy identified at OU 10, causing them to defer the investigation of portions of this terrestrial site to the RI/FS for Site 41, should be included in this figure.

4. Section 2.2:
Please revise Figure 2-1 to include all of the intermittent streams and drainage ditches referenced in this section.

5. Section 2.4:
Please expand this section to include brief summaries of the findings of the studies conducted by U.S.EPA and Groundwater Technology Government Service, Inc..

6. Section 2.5:
This section should also identify the wetlands which were identified in the Draft RI Report for OU 10.

7. Section 3.2, Other Potential Sites:
Please revise Figure 3-1: Sites Potentially Impacting NASP Wetlands to include the sites listed in this subsection (i.e. 7, 8, 22, 24, 25, 26, 27 and 31).

8. Section 4.4.1, Paragraph 3:
Since site-related contaminants can migrate into wetlands via other routes in addition to leaching (e.g. surface water runoff), modify the last sentence of this paragraph.

9. Section 4.4.5:
Revise the first objective to include assessment of the nature, magnitude and extent of surface water contamination in NASP Wetlands.

10. General Comment:
Per the Navy's response to EPA Comment 24 on the Draft Work Plan for Site 41, the locations of the proposed staff gauges, piezometers and rain gauges, designed to monitor discharge and recharge to wetlands, must be provided in the present work plan.

ATTACHMENT A

DRAFT REGION IV WASTE MANAGEMENT DIVISION SEDIMENT SCREENING VALUES
for
HAZARDOUS WASTE SITES
(2/16/94 Version)

Chemical Analyte	Effects Value	CLP PQL[1]	screening Value
Trace Elements (ppm)			
Antimony	2[2]	12	12
Arsenic	8[3]	2	8
Cadmium	1[3]	1	1
Chromium	33[3]	2	33
Copper	28[3]	5	28
Lead	21[3]	0.6	21
Mercury	0.1[3]	0.02	0.1
Nickel	20.9[3]	8	20.9
Silver	0.5[3]	2	2
Zinc	68[3]	4	68
Organics (ppb)			
Total PCBs	22.7[4]	33 (67 for Aroclor 1221)	33 (67 for Aroclor 1221)
DDT	1[2]	3.3	3.3
Total DDT	1.58[4]	3.3	3.3
Chlordane	0.5[3]	1.7	1.7
Dieldrin	0.02[2]	3.3	3.3
Endrin	0.02[2]	3.3	3.3
Acenaphthene	16[3]	330	330
Acenaphthylene	44[3]	330	330
Anthracene	85[3]	330	330
Fluorene	18[3]	330	330
2-Methyl Naphthalene	70	330	330

Draft Region IV Sediment Screening Values
February 16, 1994

Chemical Analyte	Effects Value	CLP PQL	Screening Value
Naphthalene	130[3]	330	330
Phenanthrene	140[3]	330	330
Low Molecular Weight PAHs	250[3]		330
Benzo(a)anthracene	160[3]	330	330
Benzo(a)pyrene	230[3]	330	330
Chrysene	220[3]	330	330
Dibenz(a,h)anthracene	31[3]	330	330
Fluoranthene	380[3]	330	380
Pyrene	290[3]	330	330
High Molecular Weight PAHs	870[3]	330	330
Total PAHs	2900[3]		2900

'Contract Laboratory Program Practical Quantification Limit

'Long, Edward R., and Lee G. Morgan. 1991. The Potential for Biological Effects of Sediment-Sorbed Contaminants Tested in the National Status and Trends Program. NOAA Technical Memorandum NOS OMA 52

[3]MacDonald, D.D. 1993. Development of an Approach to the Assessment of Sediment Quality in Florida Coastal Waters. Florida Department of Environmental Regulation.

'Long, Edward R., Donald D. MacDonald, Sherri L. Smith, and Fred D. Calder. in press. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management