



# EnSafe / Allen &

a joint venture for professional

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Linda Martin, code 1851  
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**RE:** Responses to the **National Oceanic** and Atmospheric Administration Comments for **Draft** Work Plans: Sites 40, 41, and 42, NAS-Pensacola, Contract # N62467-89-D-0318/036

**Dear Ms. Martin:**

Please find enclosed a copy of the response to the National Oceanic and Atmospheric Administration comments for the Work Plans on Site 40, 41, and 42: Naval Air Station Pensacola in Pensacola, Florida. We look forward to discussing them further at the meeting on May 12th and 13th in Atlanta. For the record, FDER did not have any comments on these Work Plans for Sites 40, 41, and 42.

If you should have any questions or need any additional information regarding the plans, please do not hesitate to call me.

Sincerely,  
EnSafe\Allen & Hoshall

  
Henry H. Belro  
Task Order Manager

Enclosure

cc: **E/A&H File**  
**Lynn Griffin, FDER**  
**John Mitchell, FDNR**  
**Ron Joyner, NASP**  
**Tom Moody, FDER**  
**Waynon Johnson, NOAA**  
**Eric Nuzie, FDER**

National Oceanic and Atmospheric Administration (NOAA)  
**Technical** Review and Comment  
Draft RI/FS Work Plans for Site **40** (Bayou Grande),  
Site **41** (NAS Pensacola Wetlands) and Site **42** (Pensacola Bay)  
NAS Pensacola

Comment 1

Overall, the work plans for **all three sites are** based on a new scientific methodology developed for EPA's Environmental Monitoring and Assessment Program (EMAP) that **has** the goal of determining what the ecological status of **an ecosystem may be in** comparison to itself over time. EMAP is based on ongoing **surveillance** of indicators of ecological conditions. Although many of the methods and procedures in EMAP **are** useful in ecological **risk** assessment, the program, **as** whole, is not a relevant or appropriate **means** to address the issues or concerns in the remedial exposure pathway determination, and receptor identification. Data-gathering **steps** taken within the RI/FS should consider ecological risk assessment needs **so** that an ecological risk assessment may be made a part of or ancillary to the RI/FS **report**. EMAP does **not** address critical information needs of cause and effect relationships between the original sources of contamination and whatever condition that Sites **40, 41, and 42 may** be in as a result of contamination by activities stemming from the base.

Contamination at NAS Pensacola **occurred** over extended time periods, and involved many different contaminants and a widespread area. The situation at **NAS** Pensacola presents a complex and difficult **task** to understand, much less to provide answers for remediation. A general approach to devising RI/FS work plans, however, **can** be effective if the whole picture **as** well as the individual sources of contamination are taken into account.

Response

The sampling scheme **has** been revised into a three-phase approach, **as** discussed in the meeting of May **12 and 13, 1993**. A brief outline of the phases **is** presented below.

**Phase 2**

For Pensacola Bay and Bayou Grande during Phase **I**, transects **will** be extended 300 feet perpendicular to the shore. Bathymetry will be measured along the length of the transect and sediment samples **will** be collected at **0** feet (shoreline), **150** feet and **300** feet along the transect. Sediment samples **will** be **submitted** for analysis of grain **size** and total organic carbon.

During Phase **I** at the NAS Pensacola Wetlands, **all** listed wetlands and/or potential wetlands **as** impacted by a corresponding site at NAS Pensacola will be investigated to

identify basic biological characteristics of the wetland, **to delineate the wetland boundary** and to develop a sampling strategy for Phase II, **as required**. **If impact is suspected**, a grid will be established across the wetland. Bathymetry **will be measured** across the wetland, and sediment samples **will be collected from selected** locations for grain size and total organic carbon analysis.

A technical memorandum **will** be submitted upon completion of the Phase I activities. The memorandum will detail the results of Phase I sampling and will present the Phase IIA sampling locations. The technical memorandum will also present the rationale for additional sampling or the rationale for no further investigation.

### **Phase IIA**

Phase IIA **consists of collecting** sediment and **surface** water samples for Target Analyte List/Target Compound **List** (TAL/TCL) analysis **using CLP** protocol. Phase II sampling locations **will** be selected based on various criteria, including but not limited to:

- ♦ **storm** water discharge points,
- e areas hydraulically downgradient of other identified potential sources of contamination (PSCs),
- e areas of surface water discharge,
- areas of high total organic carbon,
- e **areas** of small grain size (e.g., high clay and silt content),
- ♦ background locations.

One sediment sample **will** be collected at each of these hot spot locations. The results of the analyses will initially be compared to background conditions. Locations where the detected concentrations of the sediments are greater than twice background will be further compared to the agreed trigger levels. At locations where the detected concentrations exceed the background or trigger levels, three additional sediment samples **will** be collected for analysis to delineate the extent. Surface water samples will be **collected** at locations where the detected concentrations of the sediments **exceed** the background or trigger levels in standing bodies of water (i.e., wetlands) and not in dynamic environments (i.e., Pensacola Bay and Bayou Grande). **A** technical memorandum **will** be written upon completion of Phase IIA detailing the analytical results and **the comparison** to background and the trigger levels. The technical memorandum will also present the rationale and locations for the subsequent Phase IIB sampling or the rationale for no further investigation.

### **Phase IIB**

Phase **IIB** consists of diversity and toxicity tests of **potentially impacted organisms**. During this phase of the investigation, **a known** volume of sediment **will be collected**. The sample will be submitted to the selected laboratory and the diversity of the organisms **within** the sediment **will** be determined.

Toxicity tests will also be performed during this phase. Selected species of **organisms** will be directly exposed in the laboratory to the site water and sediment. Acute (48 hour) toxicity will be tested on a portion of the selected organisms. Chronic (**28 days**) tests will be performed on all of the **selected** organisms.

A technical memorandum **will** be written upon completion of **Phase IIB detailing** the analytical results. The technical memorandum **will** also present the rationale and locations for the subsequent Phase **III** sampling or the rationale for no further investigation.

### **Phase III**

Phase **III** consists of collection of selected organisms for studying the bioaccumulation of contaminants. Phase **III** tests may be **performed** if needed to further gauge the ecological impact of a site. **This** information must be weighed against time and expense to determine an agreement for clean up levels.

### **Comment 2**

The first step that the RI/FS for the three sites should accomplish is to determine where sampling efforts need to be concentrated for maximum effectiveness in site characterizations.

Sampling locations should be chosen with regard to a number of different parameters:

- A. Both groundwater **and** surface water pathways between potential **sources** of contamination (PSC) and **all** waters of interest should **be** fully characterized. Contaminant plumes should **be** described to determine where they **are**, and whether they **represent** pathways that should be considered as **a** present or **future** source of contamination.
- B. Both **soils** and sediments that **are** in contact with groundwater and surface water pathways between potential **sources** of contaminations (PSC) and **all** waters of interest, should **be** fully characterized to determine if they should **be** considered **as** a present or future **source** of contamination.
- C. Complete characterizations of sites **40, 41, and 42** should **be performed**. **For** sites **40 and 42**, this should **begin** with creating bathymetric charts of **the** areas of concern, and conducting sediment characterizations of those **areas**. Emphasis should be place on those areas near potential surface water and groundwater discharges zones. Sediment

Responses in bold denote changes  
to first draft.

characterization should include measurements of total organic carbon, **grain size**, and acid volatile sulfides; the latter is important for trace element **analysis**. Depth profiles **can** point to probable locations of contaminant deposition. After these steps have been accomplished, sampling locations **can be** established with **a** higher degree of accuracy and with a greater likelihood that the most probable **areas** of concern have been defined.

- D. Once sampling locations have been established, **analysis** of sample should **use** ecologically relevant limits of detection. Contract laboratory protocols (CLPs) should be modified to obtain quantitation limits at or below **sediment ER-L** concentrations (Long and Morgan, 1990). **Analysis** of ground and surface water should use Ambient Water Quality Criteria (**AWQC**) **as** quantitation limits for contaminants.

#### Response

- A. **This** comment will be addressed by execution of the Phase I of the ecological assessment **as** stated in the response to Comment 1.
- B. **This** comment will be addressed by Phase I of the ecological assessment **as** stated in the response to Comment 1.
- C. Total organic carbon and **grain size** analysis **will** be **conducted** on all samples **collected** during Phase I. Depth profile sampling is also currently planned for **Phase I**.
- D. The Navy **will** be submitting trigger level values for **joint** agreement and subsequent use. **If** needed, the detection **limits** of **the chemical** analysis will be lowered to be commensurate with the trigger levels. However, the added cost should be weighed against the **usefulness** of the analytical **data in determining** ecological risk.

#### Comment 3

Characterization of the yacht **basin** in Bayou Grande along the shoreline adjacent to Site 11 should be **focused on because** of **high** contamination concentrations measured previously in samples collected **from** adjacent sediments, and **because** landfilling of hazardous wastes may have occurred **along** the shoreline.

#### Response

Currently, there are **10** sampling transects (30 samples) proposed in the area of the yacht **basin** for Phase I analysis. The yacht **basin** area **is** considered a hot spot location and will

be sampled during Phase I and **IIA**. **If contaminants are detected, additional analytical samples will be collected in this area.**

Comment 4

At the western end of Bayou Grande, a drainage channel that drains a portion of **NAS** Pensacola discharges about **1.5 km** west of the point where the **NAS** Pensacola property **line** intersect the bayou, and may be contributing contamination from Forest **Sherman** Field. There does not appear to be any sites within the drainage **area** of the channel, but because of possible inputs from the drainage channel **and** tidal influences within the bayou, it is recommended that **a few** samples be collected in the vicinity of the channel discharge point.

Response

The Navy **will** sample at the base boundary which discharges to this estuary.

Comment 5

The planned Pensacola Bay and Bayou Grande investigations should provide additional information about the **transport** of contaminants **from** site (PSCs) **identified as** sources. It is important that adequate source investigations **are** conducted, including determination of groundwater **flow and** direction and surface water **runoff** patterns during **high** intensity storms. These studies **are** crucial to the **sampling** discussion above.

Response

Agreed. The transport of contaminants from **PSC** sites **is integral** to the overall ecological assessments, and **will be** considered during the investigations of Sites **40, 41, and 42**.

Comment 6

The **work** plans place **great** emphasis on wetland vegetation **as an** exposure indicator. Vegetation is relatively unresponsive to contaminants, especially trace metals. **Examining** vegetation patterns **will** have little value for the ecological **risk** assessment.

## Response

Vegetation patterns will only be used as a guide for possible contamination. It is recognized a highly polluted site may not exhibit it through degree of vegetation. Please see the response to Comment 1.

## Comment 7

Some wetland areas have been described as unavailable to site contamination due to the distance from contaminant sources and other reasons. These areas should be included within the characterization as described above so that this determination *can* be based on stronger evidence.

## Response

All listed wetlands and/or potential wetlands as impacted by a corresponding site at NAS Pensacola will be investigated using the qualitative procedures described as Phase I of the ecological assessment in response to Comment 1.