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ENSAFE INC.

ENVIRONMENTAL AND MANAGEMENT CONSULTANTS

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5724 Summer Trees Drive • Memphis, Tennessee 38134 • Telephone 901-372-7962 • Facsimile 901-372-2454 • www.ensafe.com

September 30, 1998

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NAS PENSACOLA  
5090.3a

Florida Department of Environmental Protection  
Attn: John Mitchell  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Re: Final Baseline Risk Assessment Errata,  
Site 38 (OU 11), NAS Pensacola  
Contract # N62467-89-D-03 181059

Dear Mr. Mitchell:

On behalf of the Navy, EnSafe Inc. is pleased to submit two copies of the Final Baseline Risk Assessment errata pages for the Site 38 (OU 11) Remedial Investigation Report for the Naval Air Station Pensacola in Pensacola, Florida. Responses to FDEP comments are also enclosed. Comments were not provided by USEPA. If you should have any questions or need any additional information regarding the document, please do not hesitate to call me.

Sincerely,  
EnSafe Inc.

Allison Dennen Harris  
*Task Order Manager*

Enclosures

cc: Patricia Kingcade, FDEP without enclosure  
Tom Moody, FDEP – NW District without enclosure  
Bill Hill, Code 1851 SOUTHNAVFACENGCOM without enclosure  
EnSafe Inc. file without enclosure  
EnSafe Inc. Knoxville file without enclosure  
EnSafe Inc. library without enclosure  
Administrative Record

**NAS PENSACOLA**  
Florida Department of Environmental Protection  
Response to Comments  
Risk Assessments Included in the Site 38 and OU 2 Remedial Investigation Report

**COMMENT 1:**

FDEP stated that maximum detect values in groundwater must be used to evaluate risk from exposure to groundwater to be accepted by FDEP. Well by well risk estimates calculated by EnSafe should be kept in RA as a risk management tool.

**RESPONSE:**

For groundwater exposure pathways, the Navy will move the point risk estimates into the Risk Characteristic Section of the risk assessment and summarize the residential and industrial risk associated with the maximum concentrations. The risk/hazard associated with maximum concentrations will appear in the Risk Characterization Section as the reasonable maximum exposure (RME) risk/hazard as requested by FDEP. It was agreed that this will resolve all FDEP/U of F comments pertaining to the determination of groundwater EPC for both OU 2 and Site 38.

FDEP understands that RAGS states maximum concentrations should not be used and has interpreted EPA Region IV guidance to justify maximum concentrations as EPCs. It was also agreed that this change would not influence remedial decisions, because point risk estimates are provided in both OU 2 and Site 38.

**COMMENT 2:**

FDEP recommended including iron as a chemical of potential concern. Dr. Halmes contacted NCEA regarding the provisional reference dose for iron.

**REPOSENSE:**

It was agreed that the Navy will discuss iron toxicity in the uncertainty sections if iron exceeded the FDEP SCTL and that iron would not be retained as a chemical of potential concern. If iron did not exceed the FDEP SCTL, iron should be excluded as a chemical of potential concern. Consequently, FDEP agreed that iron should be excluded as a chemical of potential concern at Site 38.

**COMMENT 3:**

FDEP commented that molybdenum exceeded it's SCTL and should have been included as a chemical of potential concern in Site 38 soil.

**RESPONSE:**

Because only one sample had **an** exceedence **and** because molybdenum was not a target analyte **and was** not sampled for sitewide, the Tier I Partnering Group decided to eliminate the molybdenum data from the Site 38 risk assessment.

**COMMENT 4:**

FDEP stated that 1,1-dichloroethene (1,1-DCE) must be included in the Site 38 **RME** (site-wide) assessment. 1,1-DCE was reported at a concentration of 42  $\mu\text{g}/\text{L}$  in groundwater. FDEP stated that it cannot be eliminated based on limited number of detects because of the significant level at which it was detected in one well, '1000-fold greater than the screening level of 0.044  $\mu\text{g}/\text{L}$ .

**RESPONSE:**

The Navy noted that this change would bias the risk estimates for groundwater, because the maximum reported concentration would not be representative of the entire site. However, FDEP noted that the risk estimate for **this** chemical was included in the original report in the point risk estimates and agreed that this change would not influence remedial decisions and would not influence risk management decisions. The requested change will be made to facilitate site closure.

**COMMENT 5:**

FDEP recommended that sodium should be **a** chemical of potential concern in groundwater.

**RESPONSE:**

A risk management decision was made regarding sodium **as** a COPC based on the well location and depth (proximity to saltwater waterbody). FDEP stated that wells within 200 feet of Pensacola Bay should exclude sodium, but the basis was not provided in the risk assessment. FDEP/U of F and EnSafe/Navy risk assessors agreed that there is no appropriate risk assessment vehicle to quantitatively address exposure to sodium in the risk assessment.

**COMMENT 6:**

FDEP stated that the inhalation of volatiles from surface soil should not have been excluded from the OU 2 and Site 38 risk assessments.

**RESPONSE:**

The inhalation pathway for volatiles was screened out in the RIs. Revised risk assessments will specifically reference the Fate and Transport Section and **any** applicable screening tables.

**COMMENT 7:**

**FDEP** stated that the inhalation of soil particulates should not have been excluded from the OU 2 and Site 38 risk assessments. Although dust inhalation would likely contribute only a minor amount to the overall **risk** calculation, this must be demonstrated **with** some sample calculations.

**RESPONSE:**

Site **38**: Sample calculations that illustrate this point will be provided **as an** appendix in the revised risk assessments, and the risk assessment text will reference the appendix.

**OU 2**: Screening tables were developed to address this exposure pathway.

**COMMENT 8:**

FDEP recommended **using** a construction worker scenario to address exposure to subsurface soil.

**RESPONSE:**

**OU 2**: The Navy/EnSafe will develop construction worker PRGs for use **as** screening concentrations for subsurface soil. The Navy/EnSafe will provide FDEP/U of F a list of construction worker PRGs for their review and comment. Risk calculations for construction workers will be conducted by EnSafe and included in the RA. FDEP/U of F risk assessors indicated that if the soil-to-groundwater migration pathway can be eliminated through comparisons of chemical present (or not present) in each media, then construction worker PRGs would be a remedial option for subsurface soil. This will be a screening assessment only, which will contain an explanation of the assumptions.

Site 38: A formal risk assessment has been provided for surface soil pathways under an industrial scenario which is considered conservatively representative of construction/maintenance events **as** detailed in the response to Site **38** comments. Subsurface soil is considered to **be** soil from **2** feet to the water table. Site **38** has very few subsurface soil samples and the concentrations of chemicals associated with subsurface soil were generally lower than surface soil. FDEP/U of F risk assessors agreed that the construction worker scenario would **be** applicable to surface soil only at Site **38**, because chemical concentrations are higher in surface soil and the water table is approximately **2** feet, thereby preventing subsurface soil sample collection from depths greater than **2** feet. **As a** result, FDEP/U of **F** risk assessors agreed that the default site worker would be protective of construction workers exposed to surface soil at Site 38, and no screening assessment would be necessary.

**COMMENT 9:**

FDEP makes an additional modification to the reference dose to account for dietary exposure by assuming 5 mg/day manganese would be ingested from other sources, although IRIS does not recommend this modification in the uncertainty factors or modifying factors section.

**RESPONSE:**

**FDEP** interprets recommendations in **IRIS** differently than **EPA** Region IV and the Navy. **IRIS** explicitly recommends a modifying factor of 3 when **assessing** environmental exposure, **such as** soil or groundwater. **As** agreed during discussions with **FDEP/U of F**, tables will be footnoted with **FDEP's** recommended reference dose in all tables where the manganese reference dose is listed and where manganese hazard quotients are presented. **FDEP's** recommended reference dose is **0.023** mg/kg-day, which would double the manganese hazard quotients presented in the report. **FDEP** agreed that this change would not influence risk management decisions.

**COMMENT 10:**

**FDEP** stated that the **OU 2** risk assessment must include the trespasser land use scenario.

**RESPONSE**

In the **OU 2** RI, trespasser calculations will be included in the risk assessment.

**COMMENT 11:**

**FDEP** stated that **FI/FC** modifications to chronic daily intake will not be accepted.

**RESPONSE:**

**Site 38:** The **Site 38** risk assessment does not use the **FI/FC** modification.

**OU 2:** **FI/FC** was incorporated in accordance with **RAGS**. Exposure **unit** areas will be clarified in the revised risk assessment.

**COMMENT 12:**

**FDEP** suggested assessing the acute toxicity of cadmium. An acute tox screening value for cadmium was in the process of being determined. **An** interim value of 0.05 mg/kg was made available by **U of F** in April, 1998.

**RESPONSE:**

The acute toxicity potential of cadmium will **be** discussed in the uncertainty section of the risk assessments.