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NAS PENSACOLA  
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LETTER REGARDING THE TRANSMITTAL OF THE FINAL FEASIBILITY STUDY FOR SITE  
43 NAS PENSACOLA FL  
12/22/2008  
TETRA TECH



Tetra Tech NUS, Inc.

**DATE:** December 22, 2008  
**TO:** NAS Pensacola Partnering Team  
**CC:**  
**FROM:** Gerry Walker, TtNUS  
**SUBJECT:** Site 43 Remedial Alternative Change/Discussion an NASP Partnering Team Decision

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Following submittal of the Final Site 43 Feasibility Study (FS), TtNUS initiated work on the Proposed Plan to present the selected remedy for soil and groundwater at the site. A summary of all the remedial alternatives is included in the attached Table E-1. During the discussions concerning the Site 43 Proposed Plan, NAVFAC suggested the possibility of modifying one of the groundwater alternatives (and selecting it as the preferred alternative) from **G-1, Land Use Controls (LUC) and Long Term monitoring to LUCs only**. It was suggested that the change could be made and still meet the Remedial Action Objectives. The original alternative G-1 specified:

• **Alternative G-1: Land Use Controls (groundwater use restrictions) and Long-Term Monitoring**

This alternative would meet the minimum RAO requirements by monitoring groundwater concentrations for any attenuation and potential migration of the plume for an indefinite period of time or until site conditions become suitable for an exit strategy to be implemented. Administrative controls would be used to prohibit groundwater use.

**Proposed Alternative G-1 Modification**

After further analysis of the data from the RI, it appears the only COC exceeding GCTLs at Site 43 is **lead** (excluding secondary standards). At a single location, lead was reported to exceed the GCTL (primary criteria) in the groundwater sample collected from PEN-43-13S, which is located at the center of **Anomaly Area 11** (Figure 4-5 of the FS), where surface and subsurface soil samples had lead concentrations exceeding residential and industrial SCTLs. Only one round of groundwater sampling was completed.

**Requested Action**

Following USEPA guidance, TtNUS determined that a Feasibility Study Addendum would likely be required to fully explain and document the proposed action. However, prior to initiating this procedure, NAVFAC requested NAS Pensacola Partnering Team approval that a modified **Alternative G-1 "LUCs only"** for groundwater. If this modified alternative is initiated with a **Alternative S-1: Excavation and Offsite Disposal to meet Florida Industrial/Commercial SCTLs, and LUCs** or **Alternative S-3: Limited Excavation and Off-site Disposal, and Maintenance of Pavement to meet Florida Industrial/commercial SCTLs; and LUCs**, the source area would be removed in conjunction with the land use controls.

The preferred alternative modification was presented to the NAS Pensacola Partnering Team during the Partnering Team meeting on December 3 & 4, 2008. Following an in-depth discussion over two days and review of 62-785 FAC, Table 7; it was decided that iron and manganese were not a concern; however it would not be appropriate to have "groundwater LUCs only" at Site 43. Groundwater monitoring will be necessary because only one round of groundwater sampling had been completed and that event reported an exceedance for lead. Both the USEPA and FDEP regulators were adamant that the groundwater exceedance would require at least two rounds of sampling because two quarterly monitoring events with lead below regulatory standards (MCLs and GCTLs) are needed for no action, even with LUCs on groundwater. The Team felt that



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waiting until after the soil removal operation to begin quarterly groundwater monitoring would improve the chances that the initial two sampling events would indicate lead below regulatory standards. The Team voiced a consensus items on the subject including:

*Consensus Item 02 – The Team has agreed that modification of the FS is not required because LUCs alone are not adequate. The remedy will include both LUCs and monitoring for lead in groundwater.*

And after further team discussion, second consensus was taken that Alternative S-3 was selected for soil.

*Consensus Item 03 – The preferred remedy for Site 43 will be Alternative G-1 for groundwater - LUCs and monitoring; Alternative S-3 will be used for soils -Limited excavation and offsite disposal and maintenance of pavement to meet FDEP Industrial SCTLs for soils.*

It was noted that under FDEPs RMO IID for groundwater, NFA with Institutional Controls can be granted when Contaminants of Concern are greater than GCTLs provided the following are met:

1. Demonstration that contaminant concentrations in GW at property boundaries will not exceed applicable GCTLs,
2. Contamination is limited to less than 1/4 acre and is not migrating (as demonstrated through one year of monitoring), and
3. No impact or potential impact to surface water.

Based on the fact that we're talking about one monitoring well, this site would classify as less than 1/4 acre and therefore it makes sense to monitor the groundwater for one year to ensure that the plume is not migrating and to establish a seasonal trend. However, even if the lead concentration still exceeds the regulatory standards after one year, the groundwater monitoring could be discontinued based on the LUC and RMO IID criteria.

### **Future Actions**

TtNUS will resume work on the Proposed Plan per Consensus Items Number 02 & 03 - remedy selection agreement and a modification to the Feasibility Study will not be required. The Proposed Plan, Record of Decision, and Remedial Design will be written to incorporate the indicated short-term, maximum 1-year groundwater monitoring approach indicated above.



**Tetra Tech NUS, Inc.**

**TABLE E-1  
SUMMARY OF COMPARATIVE ANALYSIS OF SOIL REMEDIAL ALTERNATIVES  
SITE 43 FEASIBILITY STUDY REPORT  
NAS PENSACOLA  
PENSACOLA, FLORIDA**

Evaluation Criteria	Alternative GW-0: No Action	Alternative G-1: Land Use Controls (groundwater use restrictions) and Long-Term Monitoring	Alternative G-2: In-situ Groundwater Treatment and Short-Term Land Use Controls (groundwater use restrictions) with Monitoring
Overall Protection of Human Health and Environment	Not protective	Protective	More protective
Compliance with Chemical-Specific ARARs and TBCs	Would not comply	Would eventually comply	Would comply
Compliance with Location-Specific ARARs and TBCs	Would not comply	Would comply	Would comply
Compliance with Action-Specific ARARs and TBCs	Not applicable	Would comply	Would comply
Long-Term Effectiveness and Permanence	Not effective	Effective	More effective than G-1
Reduction of Contaminant Toxicity, Mobility, or Volume through Treatment	None	None	Reduces toxicity
Short-Term Effectiveness	No relevant issues to address	Would be effective. Minimum potential for short-term risks. The RAO would be met immediately and eventual compliance with the cleanup goal would be determined by monitoring.	Would be effective. Short-term risks can be adequately addressed. The RAO would be met immediately. Treatment goals would be attained within 2 years.
Implementability	Nothing to implement	Readily implementable, although long-term administrative controls would be required.	Somewhat more difficult to implement technically compared to G-1. However, no long-term administrative concerns exist.
Costs:			
Capital	\$0	\$ 114,000	\$ 286,000
NPW of O&M	\$0	\$92,000	\$21,000
NPW	\$0	\$206,000	\$327,000

**NOTES:**

O&M  
ARARs

Operation and maintenance  
Applicable or Relevant and Appropriate Requirements

LUCs    Land use controls  
TBCs    To be considered (criteria)

NPW    Net present worth

**TABLE E-2  
SUMMARY OF COMPARATIVE ANALYSIS OF GROUNDWATER REMEDIAL ALTERNATIVES  
SITE 43 FEASIBILITY STUDY REPORT  
NAS PENSACOLA  
PENSACOLA, FLORIDA**

<b>Evaluation Criteria</b>	<b>Alternative S-0: No Action</b>	<b>Alternative S-1: Excavation and Off-site Disposal to Meet Florida Industrial/Commercial SCTLs and LUCs</b>	<b>Alternative S-2: Excavation and Off-site Disposal to Meet Florida Residential SCTLs</b>	<b>Alternative S-3: Limited Excavation and Off-site Disposal and Maintenance of Pavement to Meet Florida Industrial/Commercial SCTLs; and LUCs</b>
Overall Protection of Human Health and Environment	Not protective	Protective	More protective than Alternative S-1	Would be somewhat less protective than Alternative S-1
Compliance with Chemical-Specific ARARs and TBCs	Would not comply	Would comply	Would comply	Would comply
Compliance with Location-Specific ARARs and TBCs	Would not comply	Would comply	Would comply	Would comply
Compliance with Action-Specific ARARs and TBCs	Not applicable	Would comply	Would comply	Would comply
Long-Term Effectiveness and Permanence	Not effective	Effective	More effective than Alternative S-1	Somewhat less effective than Alternative S-1
Reduction of Contaminant Toxicity, Mobility, or Volume through Treatment	None	Treatment of a portion of soil determined to be hazardous	Treatment of a potentially greater volume of hazardous soil	Treatment of a smaller portion of soil determined to be hazardous compared to Alternative S-1
Short-Term Effectiveness	No relevant issues to address	Would be effective. Minimum potential for short-term risks. Would attain RAOs in 6 months.	Would be effective. Greater potential for short-term risks than Alternative S-1. Would attain RAOs in 6 months.	Would be effective. Least potential for short-term risks among all alternatives. Would attain RAOs in 6 months
Implementability	Nothing to implement	Poses long-term administrative concerns	Poses short-term technical concerns	Poses long-term administrative and maintenance concern
Costs:				
Capital	\$0	\$348,000	\$706,000	\$180,000
NPW of O&M	\$0	\$77,000	NA	\$96,000
NPW	\$0	\$425,000	NA	\$276,000

**NOTES:**

ARARs  
LUCs  
NPW

Applicable or Relevant and Appropriate Requirements  
Land use controls  
Net present worth

O&M  
RAOs  
TBCs  
Operation and maintenance  
Remedial Action Objectives  
To Be Considered (criteria)