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LETTER AND COMMENTS FROM U S EPA REGION IV REGARDING CORRECTIVE  
MEASURES STUDY FOR SOLID WASTE MANAGEMENT UNITS 14 AND 15 NS MAYPORT  
FL  
4/10/2002  
U S EPA REGION IV



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

April 10, 2002

4WD-FFB

Ms. Adrienne Wilson  
Southern Division  
Naval Facilities Engineering Command  
P.O. Box 190010  
Charleston, South Carolina 29419-9010

SUBJECT: NAVSTA Mayport, Florida  
EPA ID# FL9 170 024 260

Dear Ms. Wilson:

The United States Environmental Protection Agency (EPA) has received and reviewed the following document:

- **Corrective Measures Study for Solid Waste Management Unit Numbers 14 and 15, Naval Station Mayport, Mayport, Florida, Rev. 0 (Tetra Tech NUS, Inc., December 2000)**

Enclosed are EPA's review comments. If you should have any questions, please contact me at (404) 562-8555.

Sincerely,

A handwritten signature in black ink that reads "Craig A. Benedikt".

Craig A. Benedikt  
Senior Remedial Project Manager  
Federal Facilities Branch

Enclosure

cc: Jim Cason, FDEP  
Cheryl Mitchell, NAVSTA Mayport

*CM 4/19*

**EPA REVIEW COMMENTS**  
**Corrective Measures Study**  
**SWMU 14 and 15**  
**Naval Station Mayport**  
**December 2000**

**GENERAL COMMENTS**

1. In general this document is not well written. Numerous times throughout the document thoughts do not flow coherently from one sentence to the next or from one paragraph to the next. Terms such as “standard practices” and “proper work practices” are used throughout without definition. These terms should be thoroughly described in the text so the reader will understand what is meant by the terms. In addition, the document should be thoroughly reviewed for grammatical correctness. In many cases the verb tense is incorrect, prepositions are missing and nouns are missing articles.
2. The corrective measures alternatives for soil should be placed before the groundwater alternatives in the document since the groundwater alternatives often refer to the adoption of the soil alternatives.
3. Many of the alternatives incorporate the use of monitoring and natural attenuation. If natural attenuation is considered a component of the corrective action alternatives, then the term, monitored natural attenuation, should be used and the description of the alternatives should address natural attenuation. References to earlier documents, which provide evidence of natural attenuation, should be provided in the text whenever monitored natural attenuation is discussed as an alternative. In many places within the document, the text states that natural attenuation may or might reduce contaminant concentrations over time. However, monitored natural attenuation should only be presented as an alternative if previous analytical data indicates monitored natural attenuation to be a viable alternative.
4. All of the cost tables should include a cost for the no further action alternative as it relates to the need to conduct periodic reviews to insure the corrective measure is protective.

## **SPECIFIC COMMENTS**

1. **Page viii, Acronyms.** A definition for the acronym “ESI” should be provided.
2. **Page ix, Acronyms.** MCL is the acronym for “Maximum Contaminant Level” not “Limit”. NAVSTA should be defined as “Naval Station”. O&M is the acronym for “operation and maintenance”. USGS should be defined as “United States Geological Survey”.
3. **Page ES-1.** The first sentence on this page should be revised as follows: “A Corrective Measures Study (CMS) has been conducted for Solid Waste Management Units (SWMUs) 14 and 15 at Naval Station Mayport in Mayport, Florida, by the Southern Division, Naval Facilities Engineering Command, pursuant to the Resource Conservation and Recovery Act (RCRA). Remove the abbreviation “Nos.” before SWMUs 14 and 15 throughout the document. U.S. should be removed from the name of Naval Station Mayport in this paragraph and elsewhere in the document. In Item No. 2 at the bottom of the page, change the word “chemicals” to “contaminants” and elsewhere in the document where these terms are used.
4. **Page ES-3.** In the third sentence of the first paragraph, delete the word “the” before “periodic sampling”. The fourth sentence of the first paragraph should be revised as follows: “Once the source of soil contamination is addressed, Alternative 2 would offer a cost-effective corrective action in a reasonable period of time.”
5. **Page ES-4.** The paragraph immediately following the four bulleted items to address soil contamination does not take up the issue of how natural attenuation will address arsenic in groundwater as well as persistent pesticides, which are not likely to breakdown.
6. **Page 1-1, Section 1.0.** The numbered items on this page should begin with the number 1 not the number 6. In the item listed as number 7, change the word “chemicals” to “contaminants”.

7. **Page 1-1, Section 1.1.** The first sentence of this section should be revised as follows:  
“NAVSTA Mayport is located near the town of Mayport within the city limits of Jacksonville, Florida, in northeastern Duval County on the south shore of the confluence of the St. John’s River and the Atlantic Ocean (Figure 1-1).”
8. **Figure 1-1, Page 1-2.** This figure does not adequately show the location of Naval Station Mayport. Please provide a revised figure, which clearly shows the location of the installation.
9. **Page 1-3.** The third bulleted item should be revised as follows: “Land use controls (LUCs) have been approved as an additional interim measure and implemented at both SWMUs which restrict current and future land use to other than residential.” Since the final corrective action has not been selected at these SWMUs, it must be stated that the land use controls are a component of an interim measure. In the fifth sentence of the third paragraph, insert the word “additional” in between “of” and “investigation”. In the sixth sentence of the third paragraph, make the word “recommendation” plural.
10. **Tables 1-2, 1-3, 1-4, 1-5 and 1-6.** Anthropogenic compounds should not have a background concentration associated with them; and therefore, should not be listed in the tables.
11. **Page 1-17, Section 1.3.1.** In the first and third sentences of the first paragraph, the word “were” should be changed to “are”. In the second sentence of the first paragraph, it should be clarified as to whether surface soil, subsurface soil or both is a concern at SWMU 15.
12. **Page 1-21, Section 1.3.3.2.** This section of the CMS should also address contaminants of potential concern at SWMU 15 in addition to those at SWMU 14.
13. **Page 2-1, Section 2.0.** The second sentence of the second paragraph should be revised as follows: “Flammable liquid was used for training at the FFTA to simulate a fire on a ship.”
14. **Table 2-1, 2-2 and 2-3.** What do the checked boxes indicate? Are they indicative of detections or exceedances of screening levels? A notation should be included with each table.

15. **Page 2-13, Section 2.1.1.2, Soils.** In this section of the document as well as in the rest of the document, scientific notation should be expressed as  $1 \times 10^{-6}$  instead of 1E-06 when discussing risk. When discussing human health impacts and the associated media, the text should address federal standards as well as State of Florida standards. For example, in the first paragraph of this section, the text only addresses how cancer risks compare to federal standards but not to State of Florida standards. This comparison should be conducted throughout the document whenever risk is discussed.
16. **Page 2-18, Section 2.1.3.** In the last sentence of the first paragraph, the text should be changed to the following: "...; pesticides and polychlorinated biphenyls (PCBs) were not analyzed because they were not detected during the Group III RFI." The same change should be made in the third sentence of the second paragraph. The last sentence on this page should be revised as follows: "Iron and manganese were detected at concentrations that exceeded the federal Maximum Contaminant Levels (MCLs) and State cleanup criteria."
17. **Page 2-19, Section 2.1.3.** The third sentence of the first paragraph should be revised as follows: "Iron and manganese were detected at concentrations that exceeded the federal and State screening criteria." A common error throughout the document is to capitalize the word "federal" and not the word "State". "Federal" should not be capitalized and "State" should be capitalized. Please verify the correct capitalization rules for these two words as they occur throughout the document. In the second sentence of the second paragraph, change the word "chemicals" to "constituents". In the third paragraph, it should be noted that natural attenuation is not utilized as an interim measure but rather is utilized as a final corrective action or a component of a final corrective action.
18. **Page 2-21, Section 2.1.6.** The last sentence of the first paragraph suggests a completion report will be prepared by CH2M Hill Constructors, Inc. Has the report been prepared? If so, provide an appropriate reference to the report in this paragraph.
19. **Page 2-32, Section 2.2.2.1.** In the third sentence of the second paragraph, change the word "detect" to "contain".

20. **Page 2-35, Section 2.2.2.1.** The first paragraph on this page mentions land use controls. However, land use controls have not been formally approved for use at SWMU 14. It would be more appropriate to state that land use controls have been implemented as an interim measure.
21. **Page 2-43, Section 2.2.2.4.** See Comment No. 20 above.
22. **Page 2-56, Section 2.5.** In the third sentence of the fourth paragraph, delete the word “the” before the word “concrete”.
23. **Page 2-84, Section 2.8.2.** Land use controls should be more clearly described as they relate to the alternative. For example, additional information would include allowable land use, monitoring frequency, notification requirements, etc. This same information should also be included wherever land use controls are discussed in the document.
24. **Page 2-88, Section 2.9.1.** It is not correct or accurate to state that there would be not costs associated with a no action alternative. It is correct to state there would be no capital costs associated with a no action alternative; however, there are costs associated with conducting periodic reviews of the no action alternative.
25. **Page 2-88, Section 2.9.2** It should be stated in the text which natural attenuation processes are thought to occur at the site which would aid in the reduction of COCs in groundwater. A reference to the document where a natural attenuation evaluation can be found should also be provided.
26. **Page 2-89, Section 2.9.2.** The second sentence of the Comply with Any Applicable Standards for Management of Wastes should be revised for clarity. In Item **b.** of the Other Factors section, the specific natural attenuation processes, which would lead to a reduction in toxicity, should be mentioned.
27. **Page 2-90, Section 2.9.2, Item d.** The fifth sentence should be revised as follows:  
“Materials and labor are readily available for installing skimmer equipment and monitoring wells, as well as for conducting the periodic sampling.”
28. **Page 2-92, Section 2.9.3, Other Factors, Item a.** The last sentence of this item should be revised as follows: “The performance as well as the failure of the system would be monitored by sampling the wells.”

29. **Page 2-92, Section 2.9.3, Item c.** In the fourth sentence of this section, the term “exposures” is used. The text should clearly indicate which forms of exposure are being referred to and from which contaminants. In the fifth sentence, the term “proper work practices” is used. The text should contain an explanation of what is meant by “proper work practices”. In the seventh sentence, the term “low O&M” is used. The text should state what is meant by “low O&M”. In the ninth sentence, the term “standard practices” is used. The text should contain an explanation of what “standard practices” are. The tenth sentence states that exposure to potential threats would be minimal; however, in the eleventh sentence, the text states that the alternative would not pose any safety concerns. These statements are contradictory and the text should be corrected.
30. **Page 2-92, Section 2.9.3, Item d.** The first sentence should be revised as follows: “This alternative is readily implementable.” The fourth sentence should be revised as follows: “In-situ aerobic biodegradation is a proven technology and a recent study at the site has demonstrated the effectiveness of the treatment.”
31. **Page 2-94, Section 2.9.4, Attain Media Cleanup Standards.** The last sentence of this section should be modified as follows: “The efficiency of the extraction process will be verified by sampling the monitoring wells while the effectiveness of the GAC treatment will be monitored by sampling the treated effluent.”
32. **Page 2-94, Section 2.9.4, Comply with Any Applicable Standards for Management of Wastes.** The first sentence of this section states that collected product would be disposed of “properly”. How the collected product will be disposed of “properly” should be thoroughly explained in the text.
33. **Page 2-95, Section 2.9.4, Other Factors, Item a.** The third and fourth sentences of this item provide information based on speculation. No one can predict how reliable the pump and treat system will be until the system is installed and running for a period of time. Change the text to remove the speculation. The last sentence of this item should be changed as follows: “The effectiveness of the system will be verified by sampling the monitoring wells.”

34. **Page 2-95, Section 2.9.4, Other Factors, Item b.** This section does not address toxicity.
35. **Page 2-95, Section 2.9.4, Other Factors, Item c.** The first sentence should be revised as follows: “The alternative would involve the installation of extraction wells, a carbon adsorption treatment system, and the installation of monitoring wells and passive skimming equipment.” The third sentence states that short-term risks would be “average”. The text should contain an explanation of what is meant by “average” risk. The eleventh sentence addresses fire and explosion. Since the risk of fire and/or explosion has not been an issue up to this point, this sentence should be revised to delete fire and explosion.
36. **Page 2-96, Section 2.10.** Even though Alternative 1, No Action, will not satisfy any of the requirements, it should still be compared against the other alternatives.
37. **Page 2-97, Section 2.10.1.1.** The last sentence of this section includes the phrase “adequate degree of protection” which is ambiguous and should be explained in more detail.
38. **Page 2-97, Section 2.10.1.2.** The last two sentences of this section are written in a confusing manner and should be revised for clarity.
39. **Page 2-97, Section 2.10.1.4.** Insert the words “waste containing” in between the words “generate” and “ free” in the first sentence. And again, the term “applicable standards” in the first sentence should be clarified.
40. **Page 2-99, Section 2.11, Item a.** The second sentence of this item suggests a complex system would not be justified due to the limited nature of the contamination. This rationale is not considered a valid justification. The justification should refer to the criteria evaluated. The last sentence of this item on page 2-101 should be revised as follows: “...additional corrective measures may be required.”
41. **Page 2-101, Section 2.11, Item b.** Change “...and contamination not extending...” to “...and contamination has not migrated...” in the first sentence of this item. The third sentence states that a surface water sample will be collected; however the text does not state from where and from what surface water body.

42. **Page 2-101, Section 2.11, Item c. General O&M Requirements.** The second sentence should be revised as follows: “Periodic sampling (quarterly for the first 5 years and semiannually thereafter) would be needed once the alternative is implemented.” Additional clarification should be provided for the last sentence of this item, which states that O&M requirements would be minimal.
43. **Page 2-102, Section 2.11, Design and Implementation Precautions, Item c.** The third sentence of this section should be revised as follows: “Requirements under RCRA have to be satisfied for the storage, treatment and disposal of contaminated soil and water.”
44. **Page 2-102, Section 2.11, Cost Estimate and Schedule.** Cost estimates for the proposed corrective measure should be included in the text and not just in the table.
45. **Page 2-104, Section 2.12.** The second paragraph is confusing as written. Please revise for clarity.
46. **Page 2-104, Section 2.12.1.** The single line (Soil/Sediment Alternative 2: Land Use Controls and Monitoring) below the first paragraph of this section should be the start of a new section and should be formatted as such. In the last sentence of the last paragraph on this page, change the word “remediation” to “corrective measure”.
47. **Page 2-105, Section 2.12.2.** The first sentence of this section should be revised as follows: “Soil Alternative 3 would address the principal threats posed by contaminated soil through an impermeable cover, which would prevent direct contact and infiltration, thereby, reducing the potential for contaminants to leach into the underlying aquifer. In the first sentence of the third paragraph, change the words “water resisting” and “impermeable” as they are related.
48. **Page 2-105, Section 2.12.3.** In the fourth sentence of the first paragraph, change the word “technique” to “technology”.
49. **Page 2-107, Section 2.13.1, Other Factors, Item e.** It is not appropriate to state that there would be no costs associated with the no action alternative. A cost is associated with the periodic reviews necessary to determine if the no further action alternative is still protective if this was the chosen alternative.

50. **Page 2-109, Section 2.13.2, Protect Human Health and the Environment.** The first sentence of this section should be revised to make a more definitive statement. In the third sentence, it should be noted that fencing is a form of land use control. Please revise the sentence accordingly. The fifth sentence should be revised as follows: “Contaminants in soil could continue to leach to groundwater. In the sixth sentence, it should be noted that the EPA considers land use controls to be an active corrective measure. Please revise the sentence accordingly. The eighth sentence indicates that COC concentrations might drop over time due to natural attenuation. This statement should only be made if previous analytical data indicates natural attenuation is taking place. In the ninth sentence, the term “Natural removal mechanisms” is used. This term requires additional clarification in the text. For example, what types of natural removal mechanisms are taking place, which may flush COCs into the groundwater?”
51. **Page 2-110, Section 2.13.2, Other Factors, Item c.** The second sentence of this item should be revised as follows: “Currently, the SWMU is partially fenced; however, with the implementation of this corrective measure, the fencing would be continued to enclose the remainder of the SWMU.” With the revision of the second sentence, the eighth sentence can be deleted. The ninth sentence should be deleted, as the potential for fire and explosion has not been an issue at the SWMU. A complete description of the OSHA standards referred to in the eleventh sentence should be included in the text for clarification.
52. **Page 2-111, Section 2.13.2, Other Factors, Item e.** The first sentence should be revised as follows: “The costs associated with Alternative 2 include the costs of addressing both the sediments and the soil.”

53. **Page 2-111, Section 2.13.3, Protect Human Health and the Environment.** In the first sentence, change the word “presence” to “installation”. Change the end of the third sentence as follows: “...that could lead to contaminants leaching into groundwater.” In the eighth and ninth sentences, the text states that groundwater quality would improve with time and chemical concentrations would drop. It is not appropriate to include statements such as these without providing evidence either in the form of additional information in the text or the reference to a document where additional information can be found.
54. **Page 2-113, Other Factors, Item d.** The sixth sentence should be revised as follows: “The design and installation of the concrete cover is fairly straightforward and utilizes standard construction practices.”
55. **Page 2-114, Section 2.13.4, Control the Source of Releases so as to Reduce or Eliminate, to the extent practicable, further releases that may pose a Threat to Human Health and the Environment.** If soil venting would eliminate the source of contamination and all contaminated soil is removed as stated in this section, why would land use controls be a necessary component of this alternative?
56. **Page 2-115, Section 2.13.4, Other Factors, Item a.** The first sentence of the second paragraph states that LUCs would restrict access to remaining impacted soils; however, the text stated previously that all contaminated soils would be addressed. This information is contradictory and should be revised.
57. **Page 2-116, Section 2.13.4, Other Factors, Item d.** The text states in the second sentence that soil sampling would be required to address the extent of impacted soil; however, as stated previously, all impacted soil would be addressed. This information is contradictory and should be revised.
58. **Page 2-116, Section 2.13.5.** The second sentence states that all contaminated soil would be excavated and disposed of offsite. If all contaminated soil is removed, why would land use controls need to be a component of the alternative?
59. **Page 2-118, Other Factors, Item e.** The costs provided in the text for the capital costs

and O&M costs add up to more than the total 30 year present worth costs.

60. **Page 3-1, Section 3.1.** In the first sentence, change the word “programs” to “studies”. In the second sentence, change the word “synthesized” to “obtained”. In the third sentence, change the term “remedial actions” to “corrective measures”.
61. **Page 3-7, Section 3.1.1.2, First Paragraph.** Risk should be conveyed in scientific notation rather than exponential notation. In addition, the text should include a comparison to EPA standards as well as FDEP standards.
62. **Page 3-18, Section 3.2.2.** The last sentence on this page should be revised for clarity.
63. **Page 3-25, Section 3.2.2.1.** The third sentence of the third paragraph on this page includes conjecture which should be backed up with analytical data and an appropriate reference to the data.
64. **Page 3-59, Table 3-20.** In the Alternative Description column of the table for Alternative 3, the text refers to a new detention pond at the SWMU; however, there is no new detention pond identified on any of the figures for the site.
65. **Page 3-61, Section 3.8.4.** In the second paragraph of this section, the text states that activated carbon would adsorb both arsenic and pesticides from water; however, activated carbon is not effective in adsorbing inorganic constituents such as arsenic.
66. **Page 3-65, Section 3.9.3.** In the first sentence of this section, add the word “additional” in between the words “add” and “treatment” and delete the word “option”.
67. **Page 3-70, Item d.** In the fifth sentence, insert the words “for conducting” in between the words “as” and “periodic”.
68. **Page 3-72, Section 3.10.1.5, Item b.** The text includes the following statement:  
“Alternative 3 would have average reduction in toxicity.” This statement should be explained; especially what is meant by the term “average”.
69. **Page 3-75, Section 3.11, Item c.** In the second sentence of this section, change the word “implementation” to “installation”.

70. **Page 3-82, Section 3.13.2.** As stated previously, LUCs are considered to be an active form of corrective measures by EPA. This section of the CMS should not include a discussion of groundwater monitoring since soil alternative are being addressed. In the Attain Media Cleanup Standards portion of this section, the text should address how LUCs would attain media cleanup standards. The information currently included in this section applies more to groundwater alternatives.