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LETTER REGARDING U S EPA REGION IV REVIEW STATEMENTS OF BASIS FOR  
MULTIPLE SOLID WASTE MANAGEMENT UNITS (SWMU) MILLINGTON SUPPACT TN  
09/25/2006  
U S EPA REGION IV

RECEIVED  
DIV SOLID WASTE MGT

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

September 25, 2006

Reply To  
4WD-FFB

Mr. Roger Donovan  
Tennessee Department of Environment and Conservation  
Division of Solid Waste Management  
5<sup>th</sup> Floor, L&C Tower, 401 Church St.  
Nashville, Tennessee 37243-1535

Re: Statements of Basis for multiple solid waste management units (SWMUs) at the Naval Support Activity - Mid-South in Millington, Tennessee

Dear Mr. Donovan:

Enclosed please find comments from the U.S. Environmental Protection Agency (EPA) on the referenced documents. These comments are made by the site attorney and supplement technical comments transmitted to TDEC earlier this year by Jennifer Tufts, the Project Manager for NSA-Mid-South. I believe the comments raise several questions that may need some discussion prior to finalizing the documents, so feel free to contact me if this turns out to be so. I would, in any case, appreciate a reply as to any comments that TDEC objects to or that TDEC determines, under its delegated authority, are unnecessary to include in the final statements of basis. If you have any questions, please contact me at 404/562-8553

*TO DEC id  
Navy and TDEC  
to pick and choose  
responses*

Sincerely,

Wm. Turpin Ballard, RPM  
Federal Facilities Branch

cc: Jennifer Tufts FFB  
Susan Capel, EAD/OLS

## NAS Mid-South Statements of Basis

Please provide hard copies of the revised Statements of Basis. Some of the files on the disc version could not be opened or were formatted in such a way they were illegible.

General comments applicable to all SoB:

The following comments were based on OSWER Directive 9902.6, dated February 1991. This document describes the types of information EPA recommends including in a Statement of Basis and it also includes a model Statement of Basis.

1. Purpose section - Delete the last sentence in the first paragraph. This section should identify the proposed remedy and explain why the proposed remedy was selected.
2. The first sentence in the second paragraph suggests that the public notice is optional. Public notice is required under RCRA Section 7004(b) and Tennessee's equivalent to 40 C.F.R. § 124.10(b).
3. The introduction to the Statement of Basis should solicit public comment on all possible remedies considered in the remedy selection process (unless sampling reveals that the site poses no risk to human health and the environment based on a unlimited exposure, unrestricted use scenario). It should also invite comment on any other plausible remedies. Please revise introductory section to address this comment.
4. How Can You Participate, last sentence. State that the final remedy will be incorporated into the permit via a permit modification, in accordance with 40 C.F.R. § 270.42.
5. Provide a clear statement that the Statement of Basis highlights key information from the RFI and CMS reports but is not a substitute for them. Place this statement in the section of the document which references the location of the Administrative Record.
6. Maps should be provided which show the 1) boundaries of the unit, 2) the extent of contamination, 3) sampling and well locations, and 4) the boundaries of the LUC, where LUCs are part of the remedy.
7. Indicate the approximate acreage of each unit.
8. State upfront whether the unit is part of the existing facility or whether the unit is on property that was transferred. Where the SWMU is located on property that has been transferred, identify the date of transfer and any property rights retained by the facility in the transfer.
9. Provide more background on how the risk determinations were made. The OSWER guidance referenced above explains what information should be provided and includes standard language that may be used

10. The Statement of Basis for several SWMUs use the term Voluntary Cleanup Action (VCA) to designate an action taken during the process of investigating the site. Are these actions "Interim Measures" as defined by the permit? Were these actions subject to state and EPA oversight? Please clarify for each SWMU which included a VCA as part of the investigation.
11. Where a remedy is required, include the standard statement which justifies the need to take an action: "Actual or threatened releases of hazardous constituents from the facility, if not addressed by the proposed remedy or another remedy, may present a current or potential threat to human health and the environment."
12. For each Statement of Basis:
- Provide a citation for the regulatory standards used in the initial screening and indicate the land use upon which those standards are based.
  - Contrast constituent concentrations found at the site against cleanup levels to demonstrate the need to take an action. Indicate the land associated with the screening number.
13. Provide a citation for the sampling protocol used when soil and/or groundwater samples were taken. If the protocol was different from that specified in EPA-approved SW-846 methods, provide justification.
14. The Summary of Site Risk should identify the current and anticipated future land and groundwater use prior to discussion of the calculated risk.
15. Where the site requires a remedy, more than one remedy must be considered since soil and/or groundwater are contaminated above a level that would allow unlimited exposure, unrestricted use. In this case, the Statement of Basis should include:
- a description of alternative remedies considered for every site that requires a remedy;
  - a correlating citation for the management practices required for that remedy; and
  - text which contrasts each remedy against one another using the four general standards and five decision factors described in OSWER Directive No. 9902.6, referenced above.

#### SWMU 17

December 2005

- Soil - State whether soil samples included surface and subsurface samples and the depths corresponding to those categories.
- LUC - Provide more detail about the LUC proposed for implementation for each media requiring use restrictions. Indicate when the LUC will be implemented. Indicate who is responsible for implementing, maintaining, reporting on, and enforcing the LUCs.

## SWMU No. 19 &amp; 49

Dec 2005

## 1. Summary of Contaminant Evaluation -

- a. Indicate the depths at which the subsurface soil samples were taken.
- b. Provide a citation for the regulatory standards used in the initial screening and indicate the land use upon which those standards are based for both soils and groundwater.

## SWMU No. 2

December 2005

## 1. Summary of Contaminant Evaluation -

- a. The document referenced in Footnote b to Table 1 cannot be found. Provide a better citation or indicate which PRG table (Region 3 or Region 9) was used as the screening guidance.
- b. Contrast constituent concentrations found at the site against cleanup levels to demonstrate the need to take an action.

## 2. Alternative Remedies

- a. Include a description of all of the remedies considered in the CMS and correlate each remedy with the waste management practices required for that remedy.
- c. Contrast all of the remedies considered using the nine criteria listed in OSWER Directive 9902.6

## 3. LUCs -

- a. Provide more detail about the LUC proposed for implementation at this site for each media requiring protection.
- b. Page 2 of the document states that a LUC will be needed to protect against industrial use whereas page 8 states that a LUC will be needed to protect against commercial use. Please clarify the apparent inconsistency.
- c. Clarify whether the landfill is protected by an engineered cover. The description of the landfill in the boxed text on page 1 does not mention a cover but the Selected Remedy section on page 7 does identify a cover. If an engineered cover was installed or the grading of the site are necessary for the protectiveness of the remedy, the remedy should also include a LUC to protect the cover.
- d. Indicate when the LUC will be implemented and who is responsible for implementing, maintaining, reporting on, and enforcing the LUC.

## SWMU 20

Dec 2005

## 1 Page 2, second column, first full paragraph, last sentence

- a. Is UWT an acronym or is it the building identification number? Please clarify. The conventional acronym for an underground storage tank is "UST." This is the acronym EPA, the States, and industry generally use to describe an underground storage tank, whether it holds petroleum products or hazardous substances

- b. The last sentence is unclear. Did the actual removal of the unit cause the contamination or was contamination discovered at the time of its removal? Please clarify.
2. Page 2, second column, last paragraph, last full sentence on this page. Is an institutional control already in place. If so, indicate whether it was part of an interim measure and the legal mechanism used to enforce it
3. Indicate the depths at which the subsurface soil samples were taken.
4. LUCs
  - a. Provide more detail about the LUC proposed for implementation at this site for each media requiring protection.
  - b. Indicate when the LUC will be implemented.
  - c. Indicate who is responsible for implementing, maintaining, reporting on, and enforcing the LUCs.

#### SWMU 23

Dec 2005

Respond to comments addressed in General Comments section above.

#### SWMU No. 24

Dec 2005

1. Include a citation to the TDEC regulations which specify soil cleanup levels and identify the land use upon which these levels are based.
2. The statement in the Soil section on page 4 states that cleanup levels are based on TDEC soil cleanup values; however, according to the section entitled Removal Action, a site-specific soil cleanup level was calculated and used during the soil removal operation. Please clarify the apparent inconsistency. If the soil cleanup level is site specific, explain how it was calculated and indicate the land use upon which it is based.

#### SWMU No. 3

Dec 2005

1. Background Summary - Indicate the legal authority or the circumstances which triggered the 1983 investigation of this SWMU.
2. Soil - State whether soil samples included surface and subsurface samples and the depths corresponding to those categories.
3. Groundwater - Post RFI Evaluation

- a. The basis for concluding that the elevated metals detected in the groundwater are naturally occurring is unclear and is not supported by the information provided in the State of Basis. What is the source of the reference concentration data? Even when the reference concentration data is used as a comparison, the sample concentrations exceed the reference concentration numbers by as much as 30% (30% for vanadium, 26% for nickel, and 16% for chromium).
- b. Likewise, the document does not provide sufficient support to justify dismissing the elevated concentrations of methylene chloride and acetone as laboratory artifacts since solvents are commonly used to clean surfaces prior to corrosion plating.

#### 4. Summary of Site Risk -

- b. Evaluation of Post RFI Groundwater Data, p. 5, second column, second paragraph. It is unclear how a risk analysis using a residential scenario which assumes groundwater use does not assume exposure to receptors ("lack of exposure"). Please explain.
- c. A copy of the document referenced in the text on page 5, second column, Shelby County Code Enforcement Chapter 1501.2, cannot be located on the Shelby County site. Additionally, it is unclear whether a county ordinance is enforceable on federal property. Finally, the fact that municipal water supplies are available as an alternative to groundwater is not an assurance of protectiveness since the City of Millington relies on groundwater as its drinking water supply. See [http://www.ci.millington.tn.us/water\\_quality\\_report\\_2005.html](http://www.ci.millington.tn.us/water_quality_report_2005.html)

#### SWMU No. 30

Dec 2005

1. Summary of Site Risk - Even though the preceding section states that benzo(a)pyrene was detected above health based levels for residential development, this section concludes that no further action is required. The text must provide more support for this conclusion. Please revise the text as necessary.

#### SWMU 41

Dec 2005

1. Human Health Risk, Soil - Please explain why those constituents in soil that exceeded a residential screening level are not designated as constituents of concern.
2. It is unclear whether a county ordinance is enforceable on federal property. Provide support for this assertion. Additionally, the fact that municipal water supplies are available as an alternative to groundwater is not an assurance of protectiveness since the City of Millington relies on groundwater as its drinking water supply

#### 3. LUCs

- a. Provide more detail about the LUC proposed for implementation at this site.
- b. Indicate when the LUC will be implemented.
- c. Indicate who is responsible for implementing, maintaining, reporting on, and enforcing the LUCs.

## SWMU 43

Dec 2005

1. Background Summary, second paragraph, 4<sup>th</sup> sentence - This sentence suggests that this site is currently in use as a satellite accumulation area or generator storage area. Please clarify.

## 2. LUCs

- a. Provide more detail about the LUC proposed for implementation at this site.
- b. Indicate when the LUC will be implemented.
- c. Indicate who is responsible for implementing, maintaining, reporting on, and enforcing the LUCs.

## SWMU 45

Dec 2005

## 1. Summary of Contaminant Evaluation -

- a. An interim measure is an action taken in response to information gathered during Confirmatory Sampling or the RFI stage. It is not appropriate to use IM ("Interim Measure") investigation to designate a sampling or information gathering stage of the RCRA corrective action process. Please revise the nomenclature to conform to the sampling/information gathering stages used in the permit.

## 2. Summary of Site Risk

- a. Soil - Provide background information on development of a risk assessment and ranges deemed protective before concluding that the contaminant concentration was within an acceptable risk range.
- b. Groundwater - Provide more information to support the conclusion that the loess groundwater will not be used as a drinking water source. Has the state or other governmental entity designated it as a non-potable aquifer? Please clarify. Otherwise, a land use control will be required for the groundwater.

## SWMU 46

Dec. 2005

1. It is unclear why this unit isn't being handled as a regulated unit under the base portion of the permit since it was operable until 1985. According to the text, paint-related wastes collected in floor drains, which emptied into a combination of sumps, outdoor wash basins, and, eventually, into either the storm sewer or sanitary sewer, apparently without the benefit of a hazardous waste determination. Paint waste can also be a hazardous waste. Collection of the waste in the floor drains and appurtenant piping, sumps, and outdoor wash basins may constitute storage. Depending upon the unit and the amount of time the waste was stored, these collection units may qualify as regulated units, subject to the closure and corrective action requirements under 40 C.F.R. Part 264.

2. Provide more information about how the site-wide GW contamination is being addressed.

## SWMU No. 48

December 2005

1. Provide more information about the SWMU and its operations. Provide the approximate size of the unit. Explain how the soils became contaminated with petroleum. Indicate how much of the surface of the unit is covered with concrete or asphalt pavement. Indicate where releases to these surfaces would drain. Did the unit include an underground storage tank which may have been used for storage of hazardous waste? When did the unit stop operating?
2. Soil -
  - a. Provide a citation for the TDEC soil cleanup values. Indicate the land use assumed in making these comparisons.
  - b. Indicate the location of the document containing the calculated reference background concentrations for arsenic. State whether TDEC and EPA have accepted this number as a background concentration.
  - c. Indicate the land use associated with TDEC's most conservative cleanup level.
  - d. Provide more information about the location and amount of contaminated soils removed. State where the soils were taken for treatment or disposal.
3. Summary of Site Risks
  - a. Indicate the land use associated with the TDEC acceptable level contained in the last sentence of the second paragraph of this section.
  - b. Explain how the soils became contaminated with petroleum. The earlier description of the site suggests that the SWMU only handled solvents.
  - c. Indicate the approximate volume of soils removed.
  - d. Human Health Risk - It is unclear whether the earlier soil removal addressed all of the contamination at the site or whether the contaminant concentrations found were below levels creating a need for action under an unlimited use, unrestricted exposure scenario. Please modify the text to address this comment.
4. Removal Action -
  - a. Provide justification for using a composite sample from 5 different sites to determine whether any one site required further soil removal.
  - b. Identify the land use assumed when concluding No Further Action is needed.

SWMU 5

December 2005

1. Background Summary
  - a. Provide a citation for the TDEC action levels and indicate the land use upon which they are based.
  - b. State whether the underground storage tanks were removed at the time the petroleum contaminated soils were removed.
  - c. P. 2, second column, second paragraph - The first part of this paragraph states that groundwater contaminants remained absent during the monitoring period. However, the later portion of the paragraph states that land use controls against groundwater use were retained. Please provide information clarifying this apparent inconsistency.

## 2. Summary of Contaminant Evaluation

- a. Soil - Indicate whether follow-up samples were taken in the locations where the soil was removed to confirm the existence or absence of the constituents found earlier.
- b. Groundwater - What is the source of the RBC? Identify whether this is a calculated standard, one promulgated by TDEC, or a standard obtained from other sources.
- c. The text indicates that only one sample was taken to evaluate the results of the removal. Explain and justify why only one sample was taken. Explain why a replacement well was needed.
- d. Groundwater - Indicate whether the second groundwater analysis for metals was filtered.
- e. Groundwater - Provide more information about the USTs. Indicate the number of tanks present, whether the tanks conformed to the UST requirements of 40 C.F.R. Part 280, whether the tanks were removed or filled with inert solid material when closed, whether the tanks released to the environment, etc.

## 3. Removal Actions

- a. Please provide more information about the oil/water separator. Describe the unit and indicate whether it was located underground, whether it had secondary containment, etc.
- b. Please provide more information about the 'structure' which is mentioned here for the first time in this document.

4. Human Health Risk - Benzene cannot be eliminated as a chemical of concern based on one sampling event. The risk posed by benzene should be reassessed after sufficient sampling has been conducted.

5. Selected Remedy - The remedies in the 2<sup>nd</sup> paragraph are illegible. Please revise or reformat the document to address this comment.

SWMU No. 59

December 2005

### 1. Background Summary -

- a. Provide more information about the building and the activities occurring in the building. Also, describe the activities conducted outside the building that contributed to the soil contamination.
- b. The document does not contain any information about the sampling in the building. Please provide information to justify the decision not to sample.

2. Soil - Did the concentrations of the chemicals of concern in the subsurface soil exceed those deemed protective based on a residential scenario? Please clarify.

3. Groundwater - The statement that concentrations of chemicals in the groundwater will support industrial development but not residential development is unclear since, presumably, the industrial worker would be consuming the same groundwater as a resident. Please clarify.

SWMU 61

December 2005

1. Site Description. Indicate whether the sewer was the storm sewer or the sanitary sewer. If the discharge from the pad was directed to the storm sewer, indicate where the flows were discharged and whether this area was designated as requiring investigation under the permit.

2. Background Summary

a. Describe the cleaning operation.

b. Since the unit operated in the 1980s, indicate whether the facility made a hazardous waste determination on the waste stream generated during the cleaning process.

3. Groundwater - According to the text, groundwater sampling was not conducted, even though soils contained contaminants which can leach to the groundwater. Removal of the contaminated soils during the investigation is insufficient justification to dismiss groundwater sampling entirely. Please provide information to address this comment.

4. Human Health Risk, Soil - The conclusion that there were no chemicals of concern is inconsistent with the statements on the previous page which indicate that constituents were found at concentrations that exceeded risk based concentrations. Please clarify.

5. Removal Action - Indicate the land use upon which the No Further Action determination was made.

SWMU 63

December 2006

1. Background Summary -

a. Provide more information about the underground tank. Describe how the tank was used, the types of waste discharged into the tank, how often the tank was pumped out, whether the tank had a leak detection system, and its period of operation.

b. State whether closure of the tank complied with the requirements of 40 C.F.R. §280.72.

SWMU 65

December 2005

1. Background Summary

a. Describe those activities conducted during "mock up."

b. Describe activities conducted in each of the buildings comprising this SWMU.

c. Indicate how jet fuel, hydraulic fluid, and lubricating oil were stored at the site. Were any other products or wastes stored at the site? If so, list and indicate how they were stored.

d. Indicate the years that the USTs were operated.

e. Since most jet fuels have a flashpoint less than 60° C, jet fuel qualifies as a characteristic hazardous waste when disposed. Explain why this unit was not treated as a regulated unit since the tanks apparently operated after the effective date of the RCRA regulations and were known to have released a characteristic hazardous wastes.

2. Summary of Contaminant Evaluation

- a. Include a citation to the screening numbers used and indicate the land use upon which they are based. Include citations for "action levels" and indicate the land use upon which they are based. Likewise with values identified as "cleanup standards."
- b. Provide justification for compositing samples taken from the soil pits after excavation.

## SWMU 7

December 2005

1. State upfront that SWMU No. 7 consists of soil and the loess aquifer only and that the contaminated groundwater will be addressed through Area of Concern A.
2. Summary of Contaminant Evaluation
  - a. Provide information which distinguishes the aquifers underlying the site at the beginning of the Soil discussion or at the beginning of the document where the text requested in Question 1 above will be added.
  - b. Explain and justify why risk based concentrations for tap water were used instead of MCLs for those constituents which have an MCL. Risk based concentrations for tap water should be used only when the constituent does not have an associated MCL.
3. Removal Action -
  - a. Indicate whether the confirmatory samples collected from the excavated dry well were consolidated or analyzed as separate and distinct samples.
  - b. Explain why the excavated pit was capped with concrete. Do contaminant concentrations in the soil still pose a leaching possibility?
4. Summary of Site Risk, Soil
  - a. A No Further Action determination is inappropriate when the site cannot support unlimited exposure and unrestricted use. Please modify the text to address this comment.
  - b. Constituent concentrations in groundwater must be compared against MCLs where an MCL exists.
5. Selected Remedy -
  - a. Land use controls should be described in terms of restrictions. For example, the LUC for this site should prohibit residential development and certain commercial uses, such as such as day cares or schools.
  - b. If the site is limited to non-residential uses, will TCE still pose an indoor air quality/inhalation concern, since non-residential uses could include uses such as a laboratory, maintenance building, manufacturing line, etc. Please provide additional information to address this comment.
  - c. Describe the types of land use controls that will be employed to achieve the land use objectives.
  - d. Indicate the entity responsible for implementing, maintaining, reporting on, and enforcing land use controls since this property has been transferred.
  - e. Since the groundwater cannot be used for consumption, the remedy must also include a land use control for groundwater.

SWMU No. 9  
December 2005

1. Background Summary

- a. Describe the construction of the lagoons. Were they lined with any kind of impervious material.
- b. Explain how the lagoons operated. Did one lagoon receive only industrial waste water and the other lagoon only municipal wastewater or were the waste streams mixed.
- c. If the lagoons received mixed waste streams, indicate whether lagoons operated in series or in parallel.
- d. Indicate the location of the discharge.
- e. Have the walls of either lagoon ever breached? If so, please describe the circumstances leading to the breach. State whether flows were contained by each lagoon or were discharged into the surrounding area or the creek.
- f. Describe how the lagoons were closed out.
- g. Indicate whether water currently exits the lagoons. If so, identify the receiving body of water.

2. Summary of Site Risk

- a. Please provide a citation to the source which explains how an ecological screening value can be used to eliminate chemicals of potential concern under the child/residential land use scenario.

3. Selected Remedy - Identify the specific types of land use controls that will be used. Identify the entity that will be responsible for implementing, maintaining, reporting on, and enforcing the land use controls.