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RESPONSE TO U S EPA AND SOUTH CAROLINA DEPARTMENT OF HEALTH AND
ENVIRONMENTAL CONTROL COMMENTS RESOURCE CONSERVATION AND RECOVERY
ACT FACILITY INVESTIGATION WORK PLAN CNC CHARLESTON SC

5/18/1994

ENSAFE/ ALLEN AND HOSHALL

**COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY
NAVAL BASE CHARLESTON
CHARLESTON, SOUTH CAROLINA
CTO-029**

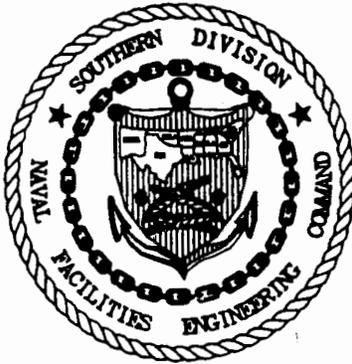


**RESPONSE TO PREVIOUS RFI
WORK PLAN COMMENTS**

Prepared for:

**DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON, D.C.**

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Prepared by:

**ENSAFE/ALLEN & HOSHALL
5720 SUMMER TREES DRIVE, SUITE 8
MEMPHIS, TENNESSEE 38134
(901) 383-9115**

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Release of this document requires the prior notification of the Commanding Officer of the Naval Base Charleston, Charleston, South Carolina.

SECTION A
USEPA
COMMENTS AND RESPONSES

**SPECIFIC COMMENTS ON CHARLESTON NAVAL SHIPYARD'S
RFI WORK PLAN**

Comment 1: Table of Contents. EPA suggests that the RFI Work Plan format be consistent throughout. Sections 2.0 and 3.0 both include SWMU specific information. Yet, the Table of Contents does not identify the SWMUs in Section 2.0 but it does in Section 3.0.

Response: These sections as such do not appear in the current workplan revision.

Comment 2: Table of Contents. Not all SWMUs are listed here requiring that the reader hunt for information on some SWMUs; all SWMUs should be listed in the Table of Contents.

Response: This comment will be noted during the preparation of all zone specific work plans.

Comment 3: Table of Contents. Some field investigations are not identified in the Table of Contents or addressed in the RFI Work Plan. An investigation of air is required by Conditions II.A.4., II.B.2.c., II.C.4., II.D.3.

Response: Volume II Section 8 and Volume III addresses air sampling and monitoring.

Comment 4: Table of Contents. Section 3.31 should read "SWMU #36, —."

Response: This section does not appear in current plan.

Comment 5: Table of Contents. Section 5.0 should be entitled "DATA MANAGEMENT PLAN".

Response: This correction appears in Volume II.

Comment 6: List of Figures. Figure 2.21. Inconsistent terminology is used throughout the RFI Work Plan to describe the old and new areas where fire-fighters are trained. Either "Fire-Fighter" or "Fire-Fighting" should be selected and used consistently.

Response: This comment has been noted.

Comment 7: List of Tables. Table 2-2. The asterisk should be deleted.

Response: This comment does not appear in current draft.

Comment 8: Page i. USEPA's Interim Final RFI Guidance Document (EPA 530/SW-89-031) is identified here but is not listed as a reference in Section 8.

Response: Reference to this document does not appear in current draft.

Comment 9: Page i. Paragraph 1. The statement is made that:

- The purpose of this document is to develop a plan for characterizing prior or continuing releases from the 36 Solid Waste Management Units (SWMUs) originally identified during the RCRA Facility Assessment (RFA) and subsequent Addendum.

Paragraph 2 refers to:

- Each of the 36 SWMUs.

and:
- 27 SWMUs where contamination from prior releases has not been sufficiently identified and delineated.

This raises four questions.

- a. Are the 27 SWMUs part of, or in addition to, the 36 SWMUs? If they are part of the 36 SWMUs, what happened to the other 9 SWMUs?

Response: SWMUs appear in Volume I, Table A-1.

- b. How many SWMUs were identified in the Permit? What action does the Permit require for each of these SWMUs?

Response: The permit identifies 24 SWMUs of which 14 are designed for RFI.

It merits noting that the purpose of this RFI Work Plan is to comply with the Permit.

EPA is concerned that this type of confusion persists throughout the RFI Work Plan. A fresh, thorough review and re-write of the RFI Work Plan needs to be done which focuses on the purpose of the RFI; meets statutory, regulatory, and permitting requirements; uses EPA and SCDHEC guidance; takes advantage of all available information about the Base; includes BRAC III requirements; and is written in a clear, factual, concise manner, which follows a logical thought process. Use of a technical writer would greatly enhance the quality of this RFI Work Plan. Please note that EPA does not envision this as being a justification for an extension of time to submit the revised RFI Work Plan.

Reference should be made to the Permit, Appendix B, Section II, which says:

- The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of release of hazardous constituents (Contamination Characterization); and identify actual or potential receptors. The investigations should result in data of adequate technical content and quality to support the development and evaluation of the corrective action plan if necessary.

Thus, the RFI will collect sufficient sampling and analysis data to characterize the contamination sources and environmental pathways, to identify the actual or potential effects of contamination on human health and the environment, and to identify and evaluate potential corrective measures. The RFI Work Plan must reflect this in entirety.

Response: The revised document in its entirety addresses the general comment.

Comment 10: Page i. Paragraph 2. Line 3. Use of the word "detailed" is an opinion and should be deleted.

Response: This verbiage does not appear in the current document.

Comment 11: Page ii. Paragraph 1. Line 7. It says:

- The RFI plan identifies potential receptors of regulated constituents which may have been released from the various SWMUs at NSY.

This is not correct. See General Comment 3.b. above.

Response: This comment is addressed in Volume III, Section 3.

Comment 12: Page ii. The last sentence says:

- Implementation of the RFI will be guided by a Corrective Action Management Plan (CAMP) which will be submitted under separate cover.

As of this date, this has not been done. This was identified in EPA's August 9, 1993, comments on the previous draft RFI Work Plan. See General Comment 3.a. above.

Response: See response to General Comment 3.a.

Comment 13: Page 1-1. First paragraph. Second sentence. See General Comment 2 above.

Response: See response to previous General Comment #2.

Comment 14: Page 1-1. Second paragraph. Reference is made to the Part B permit application; it should also reference the Permit.

Response: This verbiage does not appear in the current document.

Comment 15: Page 1-2. First paragraph. It says in part:

- For any SWMU suspected to be the source of a contaminant release to the environment, information must be available to sufficiently characterize the nature, extent, and rate of migration of releases of hazardous wastes or constituents to soils, groundwater, subsurface gas, air, and surface water. This information is used to determine whether interim corrective measures (ICM) or a corrective measures study (CMS) will be necessary. It is also used in formulating and implementing appropriate corrective measures. Such corrective measures may range from stopping the release through application of source control techniques to full-scale clean up of the affected area. "No action" may also be an appropriate measure. If sufficient information to determine what is most appropriate is lacking prior to the RFI, it must be generated during the RFI. The RFI Workplan identifies needed information and describes procedures for gathering and organizing it during the RFI.

This is the best written section in the entire RFI Work Plan and EPA agrees with it fully. Unfortunately, it is not reflected throughout the RFI Work Plan. EPA would only add as a penultimate sentence:

- If sufficient information to determine what is most appropriate is known prior to the RFI or becomes known during the RFI, then the RFI should be terminated and that appropriate action taken.

Response: This comment is addressed in Volume II, Page 1-1, second paragraph.

Comment 16: Page 1-3. Paragraph 1. Line 5. Where is "Harbor Area?"

Response: This verbiage does not appear in current comment.

Comment 17: Page 1-3. Paragraph 1. Last line. "Area" should not be capitalized.

Response: This verbiage does not appear in current comment.

Comment 18: Page 2-1. Paragraph 1. It says:

- Section 2.6 focuses on current conditions in each identified SWMU. This characterization includes, for each SWMU, a summary of previous investigations and studies, methods of investigation, plans and tables delineating and summarizing data, interpretation of the data, and identification of data gaps.

This is exactly what Section 2.6 should do, but what has not been done. To the extent that information is known, it should be presented as stated above. Then, Section 3.0 should identify data gaps. Without making a similar comment for each SWMU, consider one typical example. On Page 2-78, Paragraph 3, the statement is made that:

- Ensafe certified that closure of the interim status unit was completed according to the conditions of the Closure Plan. A review of the closure activities by DHEC determined that the unit was not fully characterized and additional delineation would be required.

Then the reader is left in suspense not knowing the activities of Ensaf or SCDHEC, the results therefrom, or the data which need to be collected.

Response: SWMU specific details shall be presented in subsequent zone specific workplans.

Comment 19: Pages 2-1. Paragraph 3. Page 2-2. Paragraphs 1 and 2. These three paragraphs independently attempt to explain the organization and name of Naval Base Charleston. All three paragraphs need to be consolidated and rewritten as one paragraph. See Specific Comment 9 above.

Response: This comment is addressed in Volume I, Section I.

Comment 20: Pages 2-4. Paragraph 3. Reference is made to the Base being filled with solid wastes and dredge spoils over the last 70 years. The Base is 93 years old. There is reason to believe that the Base began filling in the marsh land when it began operation.

Response: This comment was corrected in Volume II, Section 1.3.1.

Comment 21: Figure 2-4. Portions of this figure are illegible.

Response: This comment was corrected in current Volume II.

Comment 22: Page 2-14. Paragraph 2. Is the minus sign before 250 appropriate?

Response: The minus sign is appropriate.

Comment 23: Page. 2-14. Section 2.3.6.

- a. EPA's August 9, 1993, Comment 9 on the previous draft RFI Work Plan identified the need for determining the effects of contaminant migration on the Cooper River, Shipyard Creek, and the wetlands. EPA can not locate where this comment has been addressed in the current draft of the RFI Work Plan.

Comment 27: Pages 2-14 - 2-16. No mention is made of air emissions. See General Comment 2.d. above.

Response: This comment is addressed in Volume II, Chapter 8.

Comment 28: Page 2-17. This section states that types of waste have remained relatively constant over the years although the volumes may have fluctuated as a result of production requirements. It then describes the types of inspections conducted by the Base since EPA and SCDHEC conducted an inspection at the Base in 1990. This raises several points.

- a. For each SWMU where hazardous wastes were generated or stored, a brief description of the industrial processes which generated the wastes would be very helpful.

Response: This information will be provided in the zone specific work plans.

- b. For each SWMU where hazardous wastes were generated or stored, a brief description of waste disposal practices would be very helpful. This should include the time before, as well as after, creation of environmental statutes or regulations. The Environmental Baseline Survey currently underway at the Base should provide useful information.

Response: If available, this information will be included in the RFA.

- c. The fact that the EPA/SCDHEC inspection was a surprise to the Base is irrelevant. Continued mention of this inspection throughout the RFI Work Plan, with or without reference to it being a surprise, adds nothing to the quality of the RFI Work Plan and therefore should be deleted. The RFI Work Plan should focus on "need to know" type information. See Specific Comment 9 above.

Response: This comment has been duly noted.

- d. The inspections instituted as a result of the inspection add nothing to the quality of the RFI Work Plan and therefore should be deleted.

Response: This comment has been duly noted.

Comment 29: Page 2-17. Paragraph 3. Line 4. "South" should be capitalized.

Response: This comment does not occur in current document.

Response: Volume III of current document and the Zone J Work Plan will address these issues.

- b. EPA's August 9, 1993, Comment 10 on the previous draft RFI Work Plan identified the risk of a threat of shallow ground water to on-base personnel, particularly construction workers. EPA can not locate where this comment has been addressed.

Response: Exposure scenarios will be addressed by the BRA.

Comment 24: Page 2-15. Line 5. It says:

- Contaminants entering the shallow groundwater system at NSY do, however, represent a potential threat to the environment, since contaminants have the potential to migrate via the shallow system to adjacent surface waters.

EPA agrees and that is the reason for General Comment 3.b. above.

Response: See response to previous comment 3.b.

Comment 25: Page 2-15. Last line. Page 2-16. Lines 1-2. It says:

- Although aquatic habitats in the Cooper River, Noisette Creek, and Shipyard Creek may be threatened, human health is not directly threatened by contaminant migration, since these surface bodies do not function as potable supplies.

While human health **might possibly** not be directly threatened by migrating contaminated groundwater, human health **might possibly** be directly threatened by contact with that water and/or by gaseous and liquid contaminant migration. Thus General Comment 3.b. is very important.

Response: This comment was corrected in Volume III, page 2-18.

Comment 26: Page 2-16. Paragraph 2. "Permeabilities" is misspelled.

Response: This comment does not occur in current document.

Comment 30: Page 2-18. Paragraph 3. Southern Division Naval Facilities Engineering Command is referred to by several different names. Only one name should be selected and used consistently throughout the RFI Work Plan.

Response: This comment was corrected in current document.

Comment 31: Page 2-18. Paragraph 3. Lines 4-5. The phrase "accurately and in detail" is an opinion and should be deleted.

Response: Verbiage does not occur in current document.

Comment 32: Figure 2-9. This figure is illegible.

Response: This was corrected in current document.

Comment 33: Figure 2-10. This figure is illegible.

Response: This was corrected in current document.

Comment 34: Page 2.18. Section 2.6. This is a critical section. Clearly, concisely, and factually, it should identify all that is known, and needs to be known, about every SWMU. Instead, it contains generalized summaries, conclusions, and contradictions. For example, consider SWMU 6. Page 2-24 says:

- The public works storage yard (SWMU #6) contains three isolated areas near the surface of the ground containing slightly elevated lead levels. This unit is also currently being assessed for clean closure status under the risk assessment (Ref. 16).

Yet, Section 2.6.6 says:

- Results of the analyses indicate that soils in the Public Works Storage Yard are contaminated with metals including barium, cadmium, chromium and lead. However, groundwater has not been characterized for this site.

See General Comments 2 and 9 above.

Response: This will be revised in the zone specific work plan.

Comment 35: Page 2-18. Section 2.6. Each SWMU needs to be identified by building number or proximity thereto and map coordinates.

Response: See Table A-1, Volume I.

Comment 36: Page 2-22. Documentation on the agreement between SCDHEC and NSY defining "clean" should be included in the Appendix.

Response: This documentation was not available (and may not exist) at the time the Comprehensive RFI Work Plan was submitted.

Comment 37: Page 2-23. Paragraph 3. Reference is made to a risk assessment currently in review at EPA and SCDHEC. EPA will not evaluate the results of a risk assessment prior to receipt of assurance that the risk assessment was conducted in accordance with an EPA approved RFI Work Plan.

Response: Refer to Volume III of current document.

Comment 38: Page 2-23. Paragraph 4. This paragraph is vague and confusing. At best, it identifies the existence of a problem but provides no plan for obtaining or analyzing existing data or collecting additional data needed. EPA recognizes the issue regarding background concentrations. However, for the purposes of an RFI Work Plan, EPA expects a detailed plan describing how it will be addressed. This is a critical issue regarding the Base; it involves the question "How clean is clean?" EPA expects the RFI Work Plan to identify the concentrations of contaminants in the environment at the Base, and to identify which are naturally occurring and which are anthropogenic. EPA suggests that the RFI Work Plan identify the on-Base sources of anthropogenic contaminants, and attempt to identify off-Base sources which have directly or indirectly adversely impacted the Base. EPA's August 9, 1993, Comment 11 has not been addressed.

Response: Origin of contaminants in each SWMU will be addressed in each zone specific workplans.

Comment 39: Page 2-24. Section 2.6.1.

- a. EPA's August 9, 1993, Comment 12 regarding additional sampling at SWMU 1 has not been addressed.
- b. Considering the toxicity of cyanide compared to cadmium and chromium, why is cyanide not mentioned here?

Response: These details shall be addressed in each zone specific workplan.

Comment 40: Page 2-25. Paragraph 2. Line 10. The word "were" should be deleted.

Response: This does not occur in current document.

Comment 41: Page 2-25. Paragraph 3. EPA's August 9, 1993, Comment 6 does not approve the use of proposed action levels. This comment has not been addressed.

Response: This comment was addressed in Volume III. See also response to previous comments.

Comment 42: Page 2-28. Paragraph 1. "Bin" should be capitalized.

Response: This does not occur in current document.

Comment 43: Page 2-28. Paragraph 4. This paragraph is not clear. Is it being proposed that the Base be allowed to call SWMU 1 clean closed with 481.5 ppm of lead contamination at the site? EPA will not approve this.

Response: This does not appear in current document. Note, individual SWMUs shall be addressed in zone specific workplans.

Comment 44: Page 2-28. "Bin" should be capitalized.

Response: This verbiage does not appear in the current document.

Comment 45: Page 2-29. Paragraph 1. Penultimate line. "Area" should not be capitalized.

Response: This verbiage does not appear in the current document.

Comment 46: Figure 2-12. This figure is illegible.

Response: This verbiage does not appear in the current document.

Comment 47: Page 2-31. Paragraph 3. EPA does not agree that:

- Lead apparently is not migrating vertically through the soil column.

The data cited in the preceding paragraph contradict this conclusion. EPA's August 9, 1993, Comment 18 has not been addressed.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 48: Page 2-35. Line 2. "Bin" should be capitalized.

Response: This verbiage does not appear in the current document.

Comment 49: Page 2-35. Section 2.6.3. EPA's August 9, 1993, Comment 13 regarding pesticide and rodenticide analyses has not been addressed.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 50: Figure 2-15. This figure is illegible.

Response: This verbiage does not appear in the current document.

Comment 51: Page 2-45. Paragraph 3. Last sentence. The meaning or intent of this sentence is not clear.

Response: This verbiage does not appear in the current document.

Comment 52: Page 2-47. Paragraph 1.

- a. Reference is made to an investigation under a risk assessment. It is implied that approval of the risk assessment by EPA and SCDHEC "will determine if the soils can be clean closed." As noted in Specific Comment 37 above, the point is moot. The site has not been fully investigated as required by the Permit. Pending completion of the RFI Work Plan with its risk assessment, EPA will not make any determination regarding the site.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

- b. EPA's August 9, 1993, Comment 23 has not been addressed.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 53: The terms "Phase I" and "Phase II" are used throughout this RFI Work Plan but are not defined.

Response: This verbiage does not appear in the current document.

Comment 54: Page 2-54. Paragraph 3. Penultimate sentence. It says:

- Since potential migration of this plume to nearby surface waters could create a sheen in violation of applicable water quality criteria, the soil and groundwater contamination should be delineated and remediated.

While this statement is true, it is also misleading. The fact that it would cause a violation of applicable water quality criteria is of secondary importance. The plume should be delineated and remediated because no form of environmental contamination is acceptable.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 55: Page 2-55. Section 2.6.9. No mention is made of cyanide being disposed of or sampled for. This must be done.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 56: Page 2-55. Table 2-8. Wastes from SWMUs 22 and 25 should be listed here. These wastes are critical.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 57: Page 2-62. Section 2.6.10. This section needs to be revised to reflect the relocation of the hazardous waste storage area.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 58: Page 2-62. Paragraph 1. Sentence 3. The length of time authorized for storage of hazardous wastes needs to be verified. The time stated here is questionable.

Response: This comment can be addressed in Volume II, Chapter 16 Waste.

Comment 59: Page 2-63. Section 2.6.11. Calcium hydroxide should be spelled out rather than written as a chemical formula.

Response: This verbiage does not appear in the current document.

Comment 60: Page 2-65. Paragraph 3. First sentence. The words "standard units" should be deleted.

Response: This verbiage does not appear in the current document.

Comment 61: Page 2-66. Section 2.6.13. Use of SWMU 12 was discontinued in 1971. Use of SWMU 13 began in 1973. Where was fire fighter training done between 1971 and 1973?

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 62: Page 2-66. Section 2.6.14. This is one of the most important SWMUs at the Base. Of every SWMU, this one should be most thoroughly documented. A table like Table 2-8 would be useful here. The volumes and types of chemicals disposed of here needs to be carefully identified.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 63: Page 2-68. Paragraph 1. Line 3. The numbers add up to 101%. This needs to be corrected.

Response: This verbiage does not appear in the current document.

Comment 64: Page 2-73. Section 2.6.18. This is also the area that was used for the storage of hazardous wastes after use of SWMU 21 was discontinued. It needs to be investigated accordingly. EPA disagrees with the conclusion that no additional sampling is needed at this site.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 65: Page 2-77. Paragraph 2. SWMU 9 is referred to as the "old sanitary landfill" here, but is referred to as the "closed landfill" on Page 2-55. Throughout the RFI Work Plan, SWMU 9 is referred to by one or the other of these names but neither consistently causing confusion. One name should be selected and used consistently throughout the RFI Work Plan.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans. This comment appears as closed landfill Volume I, Table A-1.

Comment 66: Page 2-77. Section 2.6.21. This section is entitled "Old Paint Storage Area" which is misleading. At one time, this area was used for the storage of all types of hazardous wastes, as a blasting operation to remove paint, and for a drum crusher operation. Thus, the area was used for many purposes and should be designated accordingly.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 67: Page 2-77. Paragraph 4. Reference is made to sandblasting operations in this area. Was sand the blasting media used, or was some other agent used? The appearance of the area suggests that Black Beauty was a blasting agent. One type of Black Beauty commercially available years ago contained heavy metals and carcinogens. Was this type of Black Beauty used here? What is the origin or chemical composition of the blasting media used here through the years?

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 68: Page 2-77. Paragraph 5. Did the sandblasting residues contain metals other than those listed?

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 69: Page 2-78. Paragraph 2. The statement is made that:

- Samples of paint chips from the concrete pad and soil areas were analyzed using EP Toxicity characteristic leaching procedures for metals.

Response: This verbiage does not appear in the current document.

- a. Page 2-77 acknowledges that the area was used for the storage of paint wastes. Why was there no sampling for organics, pesticides, or PCBs? EPA is concerned that this is one example of sampling which has been done but is inadequate to characterize a site. See General Comment 9 above.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

- b. The Toxicity Characteristic Leaching Procedure is mentioned here. Page 2-78, Paragraph 3, and Page 2-79, Table 2-13 mention EP Toxic. Which method was used to determine toxicity?

Response: This verbiage does not appear in the current document.

- c. Based on the appearance and history of SWMU 21, EPA does not agree that no further action is required. EPA requires that a full RFI be conducted at this SWMU.

Response: This comment was corrected in Volume I, Table A-1, Page A-2.

Comment 70: Page 2-80. Section 2.6.22. SWMU 22. Old Plating Shop Waste Treatment System. Of the 36 SWMUs, 4 are of particular concern. SWMUs 22 and 25 are of particular concern since they are 2 of the industrial processes which generated highly hazardous wastes. SWMUs 9 and 14 are of particular concern since they are two of the larger landfills, were built in a marsh, and received all types of wastes including those from SWMUs 22 and 25. Without slighting other SWMUs, the RFI Work Plan should stress the importance of complete, concise, and accurate information for these 4 SWMUs. Compare the amount, type, and manner of presentation of information given for SWMU 9 with that given for SWMUs 14, 22, and 25.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific work plans.

Comment 71: Page 2-80. Paragraph 1. Line 1. Reference is made to SWMU 22 being within the CIA but no reference is made to its proximity to any building or other landmark until Page 2-84. Because of its relation to SWMU 25, this location and relationship should be established early. Reference to a SWMU being within the CIA is irrelevant and should be deleted throughout the RFI Work Plan. The RFI Work Plan should focus on "need to know" type information.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 72: Page 2-80. Paragraph 1. It states that after 1973, plating sludge was transported off base for disposal. Was it disposed of as a solid or a hazardous waste?

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 73: Page 2-80. Paragraph 2. Reference is made to "threshold values established by EnSafe." This term needs to be defined and the basis for it described. EPA must have the opportunity to review these values before EPA can approve the RFI Work Plan.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 74: Page 2-80. Paragraph 3. Reference is made to soil samples for pH, cadmium and chromium. Why only these three parameters? Why was not cyanide sampled for?

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 75: Page 2-84. Paragraph 2. Last sentence. It says:

- To avoid duplication of effort for these two complementary units, SWMUs #22 and #25 will be addressed together under SWMU #25 for future investigative and remediation work.

That future investigative and remediation work is not identified. Section 2.6 is supposed to identify work which has been done, data gaps, and work which needs to be done. Yet, Section 2.6 does not do this. This type of information is needed for each SWMU. See General Comments 2.e. and 9 above.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 76: Page 2-84. Paragraph 3. The building number for this SWMU needs to be provided.

Response: This verbiage does not appear in the current document.

Comment 77: Page 2-84. Paragraph 3. The statement is made that the plating sludge is hauled off base for disposal. Is it disposed of as a solid or a hazardous waste?

Response: This verbiage does not appear in the current document.

Comment 78: Page 2-85. Section 2.6.24. EPA's August 9, 1993 Comment 15 regarding field and analytical screening at this SWMU has not been addressed.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 79: Page 2-86. Paragraph 2.

a. The statement is made that:

- The purpose of the study was to determine necessary actions prior to building demolition. Samples were collected primarily from process tanks so that interim corrective measures to remove the tanks could begin. Samples were also collected from an overhead structure, wall, floor and floor drain (Figure 2-26).

While EPA encourages remedial action as early as possible, interim action must be consistent with the final remedial action required. Also, considering the concentrations

and types of contaminants identified in Paragraph 3, demolition materials may be hazardous waste and subject to disposal accordingly. It is suggested that SCDHEC and EPA be involved early in this process and kept informed as it progresses.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

- b. No mention is made of the survey for or presence of asbestos. This needs to be explained.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 80: Page 2-86. Paragraph 3.

- a. The contaminants listed are called metals but include cyanide. A more appropriate name is suggested.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific health and safety plans.

- b. Although SWMUs 22 and 25 are not in operation, they are in close proximity to other industrial activities thus having the potential for workers in the area to be exposed to these contaminants. With contaminant concentrations such as 84,340 ppm of cadmium; 446,000 ppm of mercury; and 129,100 ppm of cyanide measured:
 - 1. It is critical that an adequate buffer zone around this area be identified and secured.
 - 2. It is critical that workers in the area be safeguarded from fumes generated during demolition.
 - 3. It is critical that personnel involved in the demolition be adequately protected (dermal, respiratory, and ingestion) and monitored during demolition.
 - 4. It is critical that fumes be controlled during demolition.
 - 5. EPA expects the air to be monitored continuously for metals and cyanide during demolition.

Response: (1, 2, 3, 4, 5) This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 81: Page 2-86. Paragraph 4.

a. Barium should be included in the list in Paragraph 3 above.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

b. The term "extensive" is an opinion and should be deleted.

Response: This verbiage does not appear in the current document.

Comment 82: Page 2-88. Paragraph 2. It says:

An investigation and building decontamination is proposed for this SWMU. A phased approach delineating potential contamination on the building's concrete floor, subsurface soils, and groundwater will be required to determine the effort required for remediation. This SWMU is fully addressed in Section 3.22 of this RFI Work Plan.

This raises two points:

a. This is not the type of information which should be contained in Section 2.6. Data gaps and work that needs to be done should be presented here. See General Comment 3.c. above.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

b. The term "fully" is an opinion and should be deleted.

Response: This verbiage does not appear in the current document.

Comment 83: Page 2-88. Paragraph 3. The statement is made that the area was clean closed on the day it was brought to management's attention during the SCDHEC and EPA site inspection.

- a. Clean closure is a regulatory term to describe an environmental criteria subject to the approval of SCDHEC and EPA. Factual information needs to be presented here which allow SCDHEC and EPA to make that determination.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

- b. Reference to the inspection should be deleted here and throughout the RFI Work Plan.

Response: This verbiage does not appear in the current document.

Comment 84: Page 2-88. Paragraph 6. Page 2-89. Paragraph 1. Most of this material is irrelevant, contributes nothing to the quality of the RFI Work Plan, and should be deleted.

Response: This verbiage does not appear in the current document.

Comment 85: Page 2-89. Section 2.6.28. Same as Specific Comment 9 above.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 86: Page 2-90. Paragraph 3. Same as General Comment 3.c. above.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 87: Page 2-90. Section 2.6.30. Same as General Comment 3.c. and Specific Comment 9 above.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 88: Page 2-91. Paragraph 2. Same as General Comment 3.c. above.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 89: Page 2-91. Paragraphs 2&3. In part, they say:

Numerous spills were also noted in the unit. Additionally, a storage shed was noted as having a bad solvent odor. No releases have been reported from this unit; however, hazardous constituents have the potential to migrate to surface waters during filling of the drydock with water to remove the ships. The potential for migration of the paints and thinners is limited since the paints harden and the thinners volatilize before the drydock is filled anyway.

"Numerous spills — bad solvent odor — No releases — potential to migrate." EPA is concerned about this type of regulatory interpretation.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 90: Page 2-95. Paragraphs 1&2. "Building" should be capitalized.

Response: This verbiage does not appear in the current document.

Comment 91: Page 3-1. Paragraph 1. In part, it says:

- This portion of the RFI Workplan details proposed field and laboratory investigations to be performed at the Charleston Naval Shipyard. The purpose of this work is to fill in gaps in the existing data, resulting in a sufficiently complete characterization of the site's environmental setting, the nature and extent of contamination, and to assess the risks the site may pose to human health and the environment.

This is another excellently written section in the RFI Work Plan, comparable to that mentioned in Specific Comment 15 above, and EPA agrees with it fully. Unfortunately, it is not reflected throughout the RFI Work Plan. EPA would only add:

If sufficient information to determine what is most appropriate is known prior to the RFI or becomes known during the RFI, then the RFI should be terminated and that appropriate action taken.

Response: This comment was addressed in Volume I of current document.

Comment 92: Page 3-1. Paragraph 1. It continues:

- Phase I of the investigation will be conducted to address data gaps identified at 27 of the 36 SWMUs. Groundwater will only be investigated in Phase I where specified. Phase II of the investigation will be to more specifically characterize the nature and extent of the contamination of both soils and groundwater where necessary.

This raises several points:

- a. The terms Phase I and Phase II need to be defined and their purpose stated.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- b. If Phase I addresses the data gaps at 27 of the 36 SWMUs, Phase II is not needed. See General Comment 3.c. above.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- c. Groundwater should be investigated if it has a data gap. The meaning and intent of the term "where specified" is not clear.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- d. Only soils and groundwater are mentioned. Yet, the Permit, Conditions II.C.4. and Appendix B.II.C.1.-4. require investigation of groundwater, soil, surface water, sediment, and air. See General Comment 2.d. above.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- e. No mention is made of a risk assessment. See General Comment 3.b. above.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

These Comments apply throughout the RFI Work Plan and in particular to Section 3.0. They will not be repeated for each particular SWMU.

EPA is concerned that the commendable statements which introduce this Section (See Specific Comment 9 above) are so quickly contradicted, in the same paragraph (See Specific Comments 92.a-e above). EPA is equally concerned with the cause for this contradiction.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

Comment 93: Page 3-1. Paragraph 2. Line 8. Use of "strict" is an opinion and should be deleted.

Response: This verbiage does not appear in the current document.

Comment 94: Page 3-3. Paragraph 1. It is stated that:

- Analysis will include those parameters listed in Section II.A.2 and 2.B of the Part B Permit, where applicable.
 - a. Analytical parameters should be listed here.

Response: Analytical parameters are presented in Volume II of the current document.

- b. What is meant by the term "as applicable?" Is this to mean that the RCRA Permit might not be complied with?

Response: This verbiage does not appear in the current document.

Comment 95: Page 3-4. Table 3-1. A table presents the number and types of samples to be collected. No mention is made of subsurface gas, air, surface water, or risk assessment. Pending major revision to Section 2.0 of the RFI Work Plan, EPA is not able to review the adequacy of Section 3.0. Table 3-1 should be revised based on revisions made in Section 2.0

and 3.0, and the results of additional information such as RFA and the Environmental Baseline Survey.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 96: Page 3-5. Paragraph 3.

a. See General Comment 3.b. above.

Response: This comment is addressed in Volume III.

b. The term TES should be defined.

Response: This comment is addressed in Volume III.

c. One of the requirements of Base Closure is that an Environmental Impact Statement (EIS) be conducted. A major part of the EIS is the same as the risk assessment. For efficiency and expediency, it is important that the EIS and risk assessment be closely coordinated and conducted concurrently.

Response: This comment has been duly noted.

Comment 97: Page 3-6. Paragraph 2. See General Comment 3.a. above.

Response: See response to comment 3.a.

Comment 98: Page 3-6. Section 3.6.

a. The RFI is being performed under a RCRA Permit. Therefore, investigations and remedial actions should be conducted using RCRA terminology, e.g., instead of using Target Analyte List (TAL), Appendix IX should be used. This is true for this reference and throughout the RFI Work Plan.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

b. The statement is made that:

- SWMU #1 is being closed under approved closure to health-based concentrations as determined by risk assessment.
 1. EPA has not approved procedures for performing a risk assessment so determining closure under a risk assessment is premature.
 2. EPA has not approved closure of SWMU #1.
 3. EPA expects the Base to conduct a complete site characterization before EPA will make any decision regarding approval for closure. EPA has no intention of making any decision on any SWMU until the RFI has been completed, a portion of which includes the risk assessment. See General Comments 2 and 9 above.

Response: (1, 2, 3) This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

Comment 99: Page 3-6. Paragraph 5. "Bin" should be capitalized.

Response: This verbiage does not appear in the current document.

Comment 100: Page 3-6. Section 3.7. An incomplete site characterization has been proposed. See General Comment 9 above. EPA's August 9, 1993, Comment 18 has not been addressed.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans, in addition see response to comment.

Comment 101: Page 3-9. Section 3.8. EPA's August 9, 1993, Comment 19 regarding sediment and surface water sampling has not been addressed.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 102: Page 3-14. Section 3.10. Paragraph 1. The statement is made that:

- Phase II will be implemented to fully delineate the extent of contamination, if necessary.

The purpose of Section 2 is to identify data gaps; the purpose of Section 3 is to identify how those data gaps will be filled. This statement does not satisfy the purpose of either Section 2 or 3. EPA expects the RFI Work Plan to identify how the site will be completely characterized. EPA's August 9, 1993, Comment 21 has not been addressed.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

Comment 103: Page 3-16. Section 3.11. Reference is made to well borings without identifying them. When were the well borings made? Where? Why? How? How many? EPA expects the Base to conduct a complete site characterization before EPA will make any decision regarding closure. See General Comment 9 above.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

Comment 104: Page 3-17. Section 3.11.2. EPA's August 9, 1993, Comment 22 regarding location of ground water monitoring wells has not been addressed.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 105: Page 3-19. Section 3.12.1. The Field Manual referred to should be identified.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 106: Page 3-21. Paragraph 2. The "3.12.2" at the end of this paragraph should be moved to the beginning of the title for the next section.

Response: This verbiage does not appear in the current document.

Comment 107: Page 3-21. Paragraph 3. It is stated that five groundwater monitoring wells will be installed, the locations of which will be selected in the field by a hydrogeologist during installation. EPA expects more planning and objective criteria than this.

Response: This verbiage does not appear in the current document. Note Volume II, Section 5 current document describes comprehensive well installation.

Comment 108: Page 3-22. Section 3.13.1. Soil sampling depths have not been identified. EPA's August 9, 1993, Comment 25 has not been addressed.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 109: Page 3-25. Section 3.14.1. Four paragraphs equating to one page is used to describe recent geophysical surveys, the results of which are contained - not here but - in a separate report. They are not summarized here nor is the information used to show how a data gap was filled. EPA expects to have the opportunity to review the procedures used. EPA expects to see how these surveys provided information critical to the RFI. This type of information should be summarized in Section 2.0. EPA expects this SWMU to be fully characterized. See General Comments 1, 2 and 9 above.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific work plans.

Comment 110: Page 3-26. Figure 3-8. Since the geophysical surveys have been completed, Figure 3-8 should be updated accordingly.

Response: This information will included in the zone specific work plan.

Comment 111: Page 3-27. Paragraph 1. The term "TDS" is used without being defined.

Response: This verbiage does not appear in the current document.

Comment 112: Page 3-27. Section 3.14.2.

- a. The term "BGS" is used without being defined.

Response: This verbiage does not appear in the current document.

- b. Three paragraphs equating to almost one page are used to describe a recent soil gas survey, the results of which are contained in a separate report. They are not summarized here nor is the information used to show how a data gap was filled. EPA expects to see how these surveys provided information critical to the RFI. This type of information should be summarized in Section 2.0.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- c. EPA needs to review the soil gas survey sampling and analytical procedures before we can comment on the data. See General Comments 1 and 2 above.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- d. EPA questions the basis for selecting the "target analytes" and would like to see a broader analytical scan.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- e. "The soil gas survey incorporated in investigation for qualitative purposes, with the results being integrated with the geophysical survey to try to delineate trends in the data." This sentence is unintelligible. Although EPA encourages innovative technology, EPA expects that no work of any kind be done unless there is some confidence that it will provide useful results (" — to try to delineate trends —").

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

Comment 113: Page 3-28. Section 3.14.3.

Over half a page is used to describe recent test trenching, the results of which are promised for the final RFI Report. They are not summarized here nor is the information used to show how a data gap was filled. EPA expects to have the opportunity to review the procedures used. EPA

expects to see how these surveys provided information critical to the RFI. This information should be summarized in Section 2.0.

Response: This verbiage does not appear in the current document.

Comment 114: Page 3-30. Paragraph 5. The term "TPH" is used without being defined.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 115: Page 3-32. Paragraph 3.

- a. The statement is made that "Samples will not be collected —." EPA does not approve such restrictive statements. Contamination at this SWMU must be characterized. The question is "What sampling strategy is necessary to characterize contamination at this SWMU?"

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

- b. The word "substantial" is used. EPA's definition is that if a crack will not contain a liquid, it is substantial.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 116: Page 3-33. Figure 3-10. The abbreviation "Appor." is used; EPA suspects "Approx." is intended.

Response: This verbiage does not appear in the current document.

Comment 117: Page 3-34. Section 3.17.1. Same as Specific Comment 112.c. above.

Response: This verbiage does not appear in the current document.

Comment 118: Page 3-35. Paragraph 2. It says:

The next phase of additional site assessment work will be implementation of a soil boring and sampling program. The purpose of this program is to characterize and delineate the horizontal and vertical extent of soil contamination in the area. The actual scope of this work phase will be largely dependent upon the results of the geophysical surveys. Twenty-five soil borings are proposed for the initial phase of fieldwork. It is possible additional sampling will need to be conducted based on potential data gaps identified in phase I.

This raises several points:

a. "Phase" should be capitalized.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

b. In the RFI Work Plan:

1. Section 2.0 is supposed to identify data gaps and work that needs to be done in Section 3.0 to fill those data gaps,
2. geophysical surveys have been conducted but those procedures and data are not contained in the RFI Work Plan,
3. twenty-five soil borings are to be conducted in the initial phase of fieldwork,
4. Phase I might identify additional data gaps,
5. and Phase II has not started.

Response: (1, 2, 3, 4, 5) This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

EPA can not approve such a Work Plan. This concept of collecting data, to justify collecting additional data, to justify collecting additional data, —, must end. EPA expects to see the RFI Work Plan revised:

1. In Section 2.0, analyze and summarize all available information, and identify data gaps and additional data needed.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

2. In Section 3.0, present a strategy for performing that additional work (who? what? when? why? where? how? how much?) to fill those data gaps, efficiently, effectively, and expediently. To do this, EPA suggests:

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- a. Consider each SWMU independently and collectively with other SWMUs for purposes of investigation and remediation. Subdivide the Base into work zones accordingly.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- b. Identify presumptive remedies for each SWMU and/or work zone.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- c. Collect sufficient Data Quality Objective (DQO) Levels 1 and 2 type screening data to identify the need for DQO Levels 3 and 4 type data.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- d. Collect sufficient DQO Levels 3 and 4 type data to identify a select few remedies which would be appropriate for each SWMU.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

NOTE: EPA believes that, as a general rule, one mobilization should be required for collecting the data. Re-mobilizations should be the exception to the rule and then only under extenuating circumstances.

- e. End the RFI and proceed with remedial action as soon as sufficient data are available to identify a select few remedies.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- f. Conduct the Corrective Measures Study and Risk Assessment concurrently with the RFI. (A permit modification will be required for the Corrective Measures Study.) Coordinate data needs so that one mobilization meets all needs.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

See General Comment 2.e. above.

Response: See previous response to this comment.

Comment 119: Page 3-36. Figure 3-11. Since the geophysical surveys have been completed, Figure 3-11 should be updated accordingly.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 120: Page 3-37. Paragraph 3.

- a. It is stated that the soil and groundwater investigation is to fill in current data gaps and ensure that migration of contaminants is not occurring. Failure to address media other than soil and groundwater is addressed in General Comments 2 and 9 above and need not be reiterated here. However, throughout the RFI Work Plan, the following phrase is used: "ensure that migration of contaminants is not occurring." Ensuring the contamination is not migrating is not a purpose of the RFI; determining the rate of migration is. Throughout the RFI Work Plan, this change needs to be made.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- b. EPA's August 9, 1993, Comments 30 and 31 have not been addressed.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

Comment 121: Page 3-41. Paragraph 2. "Phase" should be capitalized.

Response: This verbiage does not appear in the current document.

Comment 122: Page 3-44. Paragraph 4. Lines 4 and 5. "Building" should be capitalized.

Response: This verbiage does not appear in the current document.

Comment 123: Page 3-48.

- a. Section 3.23.1. EPA's definition of a substantial crack is one that will not contain a liquid.

Response: This verbiage does not appear in the current document.

- b. Section 3.24.2. It should read "— Phase I indicate that —."

Response: This verbiage does not appear in the current document.

Comment 124: Page 3-51.

- a. Section 3.25. Location of specific areas of contamination have not been identified.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

- b. Section 3-25.1. EPA's definition of substantial cracks is that they will not contain a liquid.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

Comment 125: Page 3-53. Paragraph 4. The word "apparent" should be deleted; the underground storage tank either is or is not present.

Response: This verbiage does not appear in the current document.

Comment 126: Page 3-60. Paragraph 2. "Phase" should be capitalized.

Response: This verbiage does not appear in the current document.

Comment 127: Page 4-1. This section deals with Quality Assurance. See General Comments 1 and 2 above.

Response: See previous responses General Comments 1 & 2.

Comment 128: Page 4-2. Paragraph 5.

- a. Reference is made here to the RFI resulting from the RFA. While the RFA is important, the RFI is being performed as a result of the RCRA Permit. This change should be noted here as well as in other places in the RFI Work Plan.

Response: This comment does not appear in revision.

- b. Listing the SWMUs here is redundant. This listing should be deleted.

Response: This verbiage does not appear in the current document.

Comment 129: Page 4-4. Table 4-1.

- a. The title for the "Completeness" column should be corrected.

Response: This table does not appear in the Volume II, the current CSAP.

- b. "Static Water Level" should be on the same line.

Response: This table does not appear in the Volume II, the current CSAP.

- c. For the PID/FID, in the Reference column, the superscript for the subscript for SOP should be deleted.

Response: This table does not appear in the Volume II, the current CSAP.

Comment 130: Page 4-7. Paragraph 5. Linda Martin is being replaced. EPA suggests that this position be referred to by title rather than name.

Response: This comment was corrected in Volume II, Page 13-7.

Comment 131: Page 4-13. Section 4.6.1. Page 4-14. Section 4.6.2. It says:

- The shallow monitoring wells will be installed in the uppermost portion of the surficial aquifer and the total depth of each well will vary depending on site conditions. The installation of deep wells may become necessary to ascertain the vertical extent of potential groundwater at the NSY.

Response: This verbiage does not appear in the current document.

Apparently this last sentence should read:

- — potential groundwater contamination at —.

Because of the wide variety of contaminants at the Base, their impact on and interaction with the groundwater presents many unknowns. Therefore, it is important that groundwater be sampled to include not only the contamination in the groundwater but the Light Non-Aqueous Phase Liquids (LNAPLS) and Dense Non-Aqueous Phase Liquids (DNAPLS) which are potentially present.

Response: This comment refers to SWMU specific investigations which will be covered by the subsequent zone specific workplans.

Comment 132: Page 4-18. Item 3. Reference is made to "a State of South Carolina Water Resources Commission report (Ref. ?)." The reference for this report should be provided.

Response: This comment is not applicable to the current revision of the Comprehensive RFI Work Plan.

Comment 133: Page 4-19. Item 5. The abbreviation "MCL" is used without definition.

Response: "MCL" correction was made in Volume III.

Comment 134: Page 4-21. Last line. The term "gallons per feet" is used. This should be "gallons per foot."

Response: This verbiage does not appear in the current document.

Comment 135: Page 4-23. Section 4.9. Reference is made to the EPA *Engineering Compliance Branch Standard Operating Procedures and Quality Assurance Manual*, February 1, 1991, (ECBSOPQAM). This document is referred to in a variety of ways throughout the RFI Work Plan. It should be referred to in only one way.

Response: The current document uses the term ECBSOPQAM.

Comment 136: Page 4-25. Table 4-3. Superscripts are used in the Sample Preservation column but accompanying footnotes are not provided.

Response: This verbiage does not appear in the current document.

Comment 137: Page 4-25. Table 4-3. EPA Method 8240. Container Size/Material column. What does the "(4)" indicate? How many vials and jars are to be used, i.e., should these terms be singular or plural?

Response: This verbiage does not appear in the current document.

Comment 138: Page 4-28. Section 4.11.1. It says:

- The field sampling team should take measures to ensure that samples are delivered to the analytical laboratory within 24 hours of collection. Due to the time constraints placed upon the field sampling team by courier service schedules, it may not be possible to meet the 24 hour sample delivery time limit. However, under no circumstances will samples be delivered to the laboratory more than 48 hours subsequent to time of collection.
- The adequacy of delivery times depends on the specific method's holding times and the conditions under which the samples are stored. Holding times and conditions govern, rather than being governed by, courier service.

Response: Revised sampling protocols are presented in Volume II of the current document.

Comment 139: Page 4-32. Example A).

a. The term 2-feet is not clear. Is 2 feet or 2-X feet intended?

Response: This verbiage does not appear in the current document.

b. The term 2"-4" feet is not clear. What is intended here?

Response: This verbiage does not appear in the current document.

Comment 140: Page 4-34. Section 4.13.2. The second sentence is irrelevant.

Response: This verbiage does not appear in the current document.

Comment 141: Page 4-36. Table 4-4. The term "(4) 40 ml. glass vials" is not clear.

Response: This verbiage does not appear in the current document.

Comment 142: Page 4-43. Section 4.18. Precision, accuracy, and completeness are defined here. These terms should be defined the first time they are used in the RFI Work Plan. This should include the terms comparability and representativeness.

Response: This verbiage does not appear in the current document.

Comment 143: Page 4-49. Section 4.20.2. It says:

- A copy of this (Quality Assurance) report will be forwarded to the SCDHEC, EPA, and NSY QA offices.
- All reports to EPA should be submitted to the name and address of the EPA official who signed the HSWA portion of the RCRA Permit, or his successor.

Response: This comment has been noted, however, the verbiage does not appear in the current document.

Comment 144: Page 4-50. Section 4.21.2. The term AOC needs to be defined.

Response: This comment was corrected in Volume I of current document.

Comment 145: Page. 4-51. Section 4.21.3. Last paragraph. It says:

- If from the analytical data, the waste does not exhibit any of the characteristics of a hazardous waste (40 CFR part 261) and the waste does not contain any of the listed hazardous wastes or they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the waste will not be defined as a "hazardous waste," as defined by RCRA Subtitle C. If analytical data indicate that individual analytes are in concentrations significantly close to or above regulatory levels, then the SOUTHDIV Engineer-in-Charge (EIC) will determine whether the waste should be analyzed by the Toxicity Characteristic Leaching Procedures (TCLP) or if other measures are appropriate.

This is illegal and therefore unacceptable to EPA. EPA is concerned about this type of regulatory interpretation.

Response: This verbiage does not appear in the current document.

Comment 146: Page 4-51. Section 4.21.4. Second paragraph. It says:

- Contaminated soils may be left within the delineated AOC unit from which they were generated provided professional judgment determines the soil will not at any rate affect human health or the environment.

Land Disposal Restrictions apply here and must be complied with.

Response: Addressed in current document, Volume II, Section 16.

Comment 147: Page 4-55. Item 2. It states that:

- The IDW container must be properly labeled.
- What constitutes "properly labeled?"

Response: This comment was addressed in Volume II, Section 16.

Comment 148: Page 4-61. Section 4.21.6. The abbreviation "TSD" should be defined.

Response: This comment was addressed in Volume II acronym listing of current document.

Comment 149: Page 4-61. Section 4.21.6. Last paragraph. This contradicts Page 4-51, Section 4.21.4, second paragraph.

Response: This verbiage does not appear in the current document.

Comment 150: Page 5-1. Section 5.2.1. Regarding documentation in field notebooks, the statement is made:

- Entries will be described in as much detail as practical.
- More specific guidance than this is needed.

Response: This comment was addressed in Volume II, Section 14 of current document.

Comment 151: Page 5-2. Section 5.2.3. EPA's August 9, 1993, Comment 47 regarding a definition of chain-of-custody has not been addressed.

Response: This comment was addressed in Volume II, Section II of current document.

Comment 152: Page 5-3. Section 5.3.2. The Permit provides specific criteria which must be addressed in the RFI and included in the RFI report. This section needs to be revised to comply with these permit requirements.

Response: This was comprehensively addressed in Volume II of current document.

Comment 153: Page 6-1. Section 6.0.

a. After discussing contaminated groundwater, the statement is made that:

- NSY can ensure that there is no future use of the surficial aquifer through the simple expedient of making a notation on its master engineering site plan. If required, a deed restriction on groundwater use could be required.

The Permit, Appendix B.II., paragraph 2 states regarding the RFI:

- The investigations should result in data of adequate technical content and quality to support the development and evaluation of the corrective action plan if necessary.
- While the RFI Work Plan should identify and evaluate a variety of potential remedies, it is inappropriate for the RFI Work Plan to single out a "no remedial action alternative" for a contaminated area. Further, based on the preliminary information currently available, EPA considers the proposed alternative unacceptable.

Response: This verbiage does not appear in the current document.

b. The statement is made:

- However, as discussed in Section 2, most conditions at NSY present little or no potential for significant impacts to ecological communities due to a nearly flat hydraulic gradient, low values of aquifer hydraulic conductivity, and soil properties which prevent or attenuate movement of constituents.
- EPA considers this conclusion to be premature since it is based on information which is neither complete nor conclusive. It is inappropriate for the RFI Work Plan.

Response: This verbiage does not appear in the current document.

Comment 154: Page 7-1. Section 7.1. The statement is made that the:

- Health and Safety Plan is written for field operations to be conducted at 27 of the 36 SWMUs located at the Charleston Naval Shipyard —. The monitoring program is being conducted to assess the nature and extent of contamination (if present) at the site and to determine if follow up action is required to maintain compliance with environmental regulations.

- a. EPA expects the Health and Safety Plan to be written to include all RFI related activities including but not limited to field operations.

Response: This comment was addressed in Volume IV of current document.

- b. EPA expects the Health and Safety Plan to be written to include all RFI activities at the Base including but not limited to the 36 SWMUs identified in the Permit. Thus, it will include other SWMUs identified during the RFI process.

Response: This comment was addressed in Volume IV of current document.

- c. The purpose for the monitoring program is neither correct nor consistent with the objectives stated on Page 1-1, Section 1.1, Paragraph 1, of the RFI Work Plan.

Response: This comment was addressed in Volume IV of current document.

Comment 155: Page 7-2. Section 7.2.1. No mention is made of Level A Personnel Protection and Safety Equipment (PPE). EPA is concerned that there is a probability for the need for Level A PPE when work is done in areas such as SWMUs 9, 14, 21, 22, and 25. Cyanide and chemical warfare agents are examples of contaminants potentially requiring Level A PPE.

Response: This comment was addressed in Volume IV, Section 6.

Comment 156: Page 7-5. Section 7.3.1. Most of the information in this section is duplicative of Section 2. Ideally, this section should present in tabular form the contaminants of concern at each SWMU and the level of protection required.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 157: Page 7-6. Table 7-1. Cyanide is identified as a contaminant of concern but only a modified Level D PPE is specified. This raises two points.

- a. Why is cyanide identified as a potential contaminant because of wastes stored at SWMU 21 but not at SWMUs where cyanide wastes were generated or disposed, e.g., SWMUs 9, 14, and 25?

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

- b. Cyanide is acutely toxic by respiration, ingestion and dermal absorption. Level A PPE should be used wherever cyanide contamination is suspected.

Response: Level A criteria is addressed in Volume IV, Section 6 of current document.

Comment 158: Page 7-17. Table 7-2. This table would be more useful if each chemical were listed in alphabetical order.

Response: This verbiage does not appear in the current document.

Comment 159: Page 7-21. Section 7.5. Protective chaps to prevent snake bites should be included in the table mentioned for Section 7.3.1.

Response: This verbiage does not appear in the current document.

Comment 160: Page 7-22. Section 7.6. The General Rules of Conduct are appropriate but not as a part of the RFI Work Plan.

Response: This verbiage does not appear in the current document.

Comment 161: Page 7-23. Section 7.6.1. Second sentence. Table 7-3 is identical to Table 7- 1. One is not needed.

Response: This verbiage does not appear in the current document.

Comment 162: Page 7-27. Table 7-4.

- a. Level A. Criteria for Use. Second Bullet. "Consult standard references —" is not prudent. The purpose of the Health and Safety Plan should be to provide the information that a worker needs without having to refer to other literature.

Response: Addressed in Volume IV, Page 15, Table 6-1 of current document.

- b. Level A. Criteria for Use. Fourth Bullet. Something was left out here.

Response: Addressed in Volume IV, Page 15, Table 6-1 of current document.

- c. Level A. Equipment. First Bullet. The first time an abbreviation is used, it should be defined.

Response: Addressed in Volume IV, Page 15, Table 6-1 of current document.

- d. Level A. Equipment. Seventh Bullet. The word "work" is out of place or something got left out of this part of the sentence.

Response: Addressed in Volume IV, Page 15, Table 6-1 of current document.

- e. Level C. Equipment. Personnel are told that they need a "respirator equipped with cartridges suitable for the hazard" but they are not told which cartridge is appropriate for specific hazards and where those cartridges are located. A table identifying SWMUs, hazards, and corresponding cartridges would be helpful.

Response: Addressed in Volume IV, Page 15, Table 6-1 of current document.

Comment 163: Page 7-28.

- a. Level D. Criteria for Use. First Bullet. Level A should be included.

Response: See Volume IV.

- b. Level. D. Equipment. Fourth and Fifth Bullet. ANSI standards are stated here but not for Levels A, B, or C. Why?

Response: See Volume IV.

Comment 164: Page 7-32. Section 7.6.3. Last sentence. "Inclement" is misspelled.

Response: This verbiage does not appear in the current document.

Comment 165: Page 7-33. Section 7.6.3.1. The statement is made:

- Disposable gloves and any disposable clothing will be disposed of in sealable bags and placed in a dumpster for disposal at a landfill.

If these are contaminated with hazardous waste, they should be disposed of as hazardous waste. Whether or not the items qualify as a RCRA regulated waste, contact with these items by other persons might involve legal liabilities.

Response: See Volume II, Section 16.

Comment 166: Page 7-34. Section 7.6.3.1. Last paragraph. What is the procedure for disposing of these wastes?

Response: Addressed in Volume IV, Section 6.4. of current document.

Comment 167: Page. 7-34. Section 7.6.5. First sentence. A frequency for receiving these tests would be more informative than to say that personnel "have had" them.

Response: Addressed in Volume IV, Section 7 of current document.

Comment 168: Page 7-35. Section 7.6.5. What qualifications are acceptable for the physician?

Response: This verbiage does not appear in the current document.

Comment 169: Page. 7-35. Section 7.7. Lines 7 and 8. PPE should be capitalized.

Response: This verbiage does not appear in the current document.

Comment 170: Page 7-36. Section 7.8. For the purposes of the RFI Work Plan, the names of specific individuals here will be current for only a short period of time. An alternate method of identification which can be kept current is needed.

Response: This comment has been duly noted; however, EnSafe intends to leave this listing as it appears.

Comment 171: Page 7-40. Section 7.9. Same as preceding comment. Also, the telephone numbers for the Law Enforcement, Fire Department, and Ambulance Service are typed wrong.

Response: See response to previous comment, also, the phone references have been corrected.

Comment 172: Page 7-42. Section 7.9.2. Directions are provided for the nearest civilian hospital. The Base has a large hospital and a Branch Medical Clinic with a medical doctor who specializes in occupational medicine. Directions to the Base hospital and Branch Medical Clinic should also be provided. Civilians working at the Base and encountering an emergency may receive emergency treatment at the Base medical facilities.

Response: This comment is addressed in Volume IV, Appendix C.

Comment 173: Page 7-42. Section 7.10. Examples of forms should be included here.

Response: This comment is addressed in Volume IV, Appendix A.

Comment 174: Page 8-1. Section 8.0.

a. Applicable regulations should be identified.

Response: This verbiage does not appear in the current document.

b. The reference list should include the *Risk Assessment Guidance for Superfund*, EPA/540/1-89/022. December, 1989. (RAGS).

Response: This verbiage does not appear in the current document.

c. Last line. The word "Lead" should be capitalized.

Response: This verbiage does not appear in the current document.

d. The HSWA portion of the RCRA Permit should be included.

Response: This has been appropriately referenced in the revised document.

e. The listing "EPA Office of Toxic Substances Agency" is incorrect.

Response: This comment is not applicable to the current document.

Comment Appendix C: The entire reference should be included here.

Response: This comment is not applicable to the revised document.

Comment Appendices D-O: While this information needs to be documented, it contributes little to the RFI Work Plan. It is better contained in a report in a file than in the RFI Work Plan.

Response: This verbiage does not appear in the current document.

Comment Appendix Q: This should be a part of the Project Management Plan.

Response: This appears in Appendix D of Volume I of current document.

Comment Appendix R: While this information needs to be documented, it contributes little to the RFI Work Plan. It is better contained in a report in a file than in the RFI Work Plan.

Response: This verbiage does not appear in the current document.

Comment Appendix S: E/A&H Corporate Health and Safety Manual. This Section presents a lot of important information, some of which is reiterated in Section 7 of the main part of the RFI Work Plan. However, Section 7 does not present as much or as well the information presented in Appendix S. Section 7 should be revised to provide only site specific information which benefits by, rather than duplicates, Appendix S.

Response: This verbiage does not appear in the current document.

Comment Appendix T: A map is needed showing directions to the Naval Base Charleston Hospital and Branch Medical Clinic.

Response: This appears in Appendix C, Volume IV of current document.

Comment Appendix U: These forms should be included in Section 7 of the RFI Work Plan.

Response: This is addressed in Volume IV, Appendix A.

SECTION B

**SCW & MRD
COMMENTS AND RESPONSES**

**COMMENTS INTERIM FINAL RFI WORK PLAN
CHARLESTON NAVAL SHIPYARD**

Comment: The first concern is the limited information which was presented in the IFW-CNS regarding specifics of how at least Phase I of the ecological assessment will be conducted. While we agree that Phase I should include the components identified in the IFW-CNS, i.e., a habitat and biota survey including a review of site history, a Threatened and Endangered Species (TES) survey, wetlands delineation, and sediment mapping within surface water bodies including wetlands, additional detail is needed to enable us to fully evaluate the potential for the Phase I activities to provide adequate information on which to base subsequent phases of testing. As stated, it is not possible to discern whether all information to be gathered as a part of Phase I will be from existing data sources or whether sampling, other than wetland delineation, will be a part of this phase. For all Solid Waste Management Units (SWMU's) near or adjacent to waterbodies or wetlands, information should be included as to lateral and vertical extent of proposed sediment sampling and constituents for which analysis is to be conducted.

Additionally, detection limits for the various parameters should be specified as it is imperative for these limits to be low enough to enable comparisons with available Ambient Water Quality Criteria, toxicity data, screening values for contaminated sediments, and other information to be used in determining what testing will be required for subsequent phases of remediation. An ecological baseline risk assessment should be incorporated into the IFW-CNS.

Our second area of concern is that the IFW-CNS addresses only the initially identified thirty SWMU's. Obviously, the information identified above for these areas must also be developed for the additional contaminated areas which have been identified since the IFW-CNS was prepared and circulated for review and input. Otherwise, our evaluation of the proposed remediation cannot be complete.

Response: These comments have been addressed in greater detail in volumes II and III of the current document. The current document is much more comprehensive in scope covering the entire site. Note that individual SWMUs shall be specifically addressed in subsequent zone specific work plans.

SECTION C

**F & WS
COMMENTS AND RESPONSES**

**COMMENTS INTERIM FINAL RFI WORK PLAN
CHARLESTON NAVAL SHIPYARD**

Comment: The one-paragraph discussion of ecological sampling states that ecological concerns will be addressed through a phased ecological assessment procedure developed to address ecological risks posed by individual sites. Phase I will consist of a habitat and biota survey including a review of site history (site history is included in the subject document), a TES survey (which should begin with a request to the Service for a list of endangered and threatened species listed or proposed for listing under the Endangered Species Act), wetlands delineation (National Wetlands Inventory Maps are available), and sediment mapping (we are not certain what this would consist of). Data from Phase I will be used to select sampling locations of samples collected in Phase II. If contamination warrants further study, additional phases will be implemented.

While the Service supports the phased approach to ecological risk assessment, we believe the current proposal is deficient and out of step with ongoing and proposed field investigations of soil and groundwater contamination. The very sketchily developed plans for ecological sampling and risk assessment indicate a perhaps less serious concern about the environmental risks posed than the Service believes is warranted. Statements in other portions of the document seem to support this, in particular the statement on page 6-2 that "most conditions at NSY present little or no potential for significant impacts to ecological communities due to a nearly flat hydraulic gradient, low values of aquifer hydraulic conductivity, and soil properties which prevent or attenuate movement of constituents."

This conclusion seems extremely premature considering that the stated purpose of proposed slug tests is to estimate hydraulic conductivity and transmissivity **within an order of magnitude** and that no samples have been collected in adjacent wetland and aquatic habitats to determine nature and extent of contamination. The nearly flat hydraulic gradient of the Charleston area nor the area's soil properties have prevented contamination from shoreline properties from reaching wetland and aquatic habitats in the Ashley River (the Koppers NPL site) nor the Cooper River (Calhoun Park Area Superfund site). Further, sampling conducted by the U.S. Geological Survey at the Charleston Naval Weapons Stations has shown the rapid rate of movement of a contaminated groundwater plume. This information from other area sites indicates it is likely that estuarine habitats in the Cooper River and tributaries adjacent to the Naval Shipyard have been contaminated to some extent via groundwater inflow as well as surface water runoff and soil erosion.

Based on the information available, the Service believes contamination at the Charleston Naval Shipyard poses a potentially significant risk to trust species and their habitats, especially those of the Cooper River. WE further believe data are currently available to develop a sampling plan to determine the nature and extent of contamination in wetlands and aquatic habitats of the Cooper River and its tributaries in the vicinity of the Shipyard. We suggest immediate and close coordination with all natural resource trustees in the development and implementation of such a plan — this is especially crucial considering the myriad of trust resources in the Cooper

River/Charleston Harbor area and the Department of Defense's "fast-track cleanup" program for bases scheduled for closure. Coordination of sampling locations and depths, compounds targeted for chemical analysis, detection limits, etc. is needed to ensure the timely collection of data necessary for an ecological risk assessment.

Response: These comments are comprehensively addressed in volumes II & III of the current document. Much of the specific verbiage referred to in these comments does not appear in the current document.

SECTION D
SCDHEC
COMMENTS AND RESPONSES

COMMENTS — REVIEW OF THE INTERIM FINAL RCRA FACILITY INVESTIGATION WORKPLAN

Comment 1: There are several instances in which a response to a comment states that the Workplan will be revised to address the Department's comment. While the response itself is appropriate, the Workplan, in fact, was not revised. An example of this is SWMU 17 — Oil Spill Area in which the response states that discrete soil samples will be collected, however the Workplan in Section 3.18.1 does not describe this procedure. This further delays approval of the RFI Workplan. Charleston Naval Shipyard (NSY) should insure that the Workplan is revised appropriately to be consistent with their responses.

Response: Sampling procedures for soil, groundwater, sediment air and miscellaneous are described in detail in Volume II of the current document.

Comment 2: The NSY should develop an inventory of all wells currently existing on base, their use, date of construction, depth, and other pertinent information.

Response: Addressed in Volume II, Section 2 of the current document.

Comment 3: Section 2.3.6 of the Workplan notes that shallow groundwater at the Shipyard is classified under *Guidelines for Groundwater Classification under the EPA Groundwater Protection Strategy* as Class IIB, a Potential Source of Drinking Water, and is therefore subject to stringent cleanup standards. The NSY should also be aware that all groundwater in South Carolina is classified by state regulations, Water Classifications and Standards, R.61-68, as Class GB, which is an underground source of drinking water. As such, state regulations also require that contaminated groundwater under NSY to be remediated to drinking water standards.

Response: Addressed in Volume II, Section 1 of the current document.

Comment 4: The first full paragraph on page 2-16 notes that the Cooper Formation is considered to be essentially impermeable due to its relative thickness (approximately 250 feet) in the vicinity of the NSY. This paragraph goes on to note that contaminants such as metals and Poly-Chlorinated Biphenols (PCBs) would likely be absorbed by the clays in the Coops Formation, and finally that the water in the Cooper Formation is not of potable quality. However as previously stated, all groundwater in the State is classified as Class GB, and therefore, if contaminated, must be remediated to drinking water standards.

Response: See previous response to comment #3.

Comment 5: The Department's comment 1 concerned the necessity of developing site-specific background concentrations for soils and groundwater. The NSY has responded to comments included in previous reviews of the RFI Workplan on this topic by stating that soils at the facility are predominantly fill material, and so are heterogeneous in character. Therefore, background concentrations could not be developed. The Department recognizes that a large portion of the Shipyard is constructed on fill, and that this fill material may be heterogeneous. However, thus far, the NSY has not attempted to develop site specific background concentrations. Until an attempt is made to develop such concentrations, it is premature to judge the difficulty in doing so. Finally, as stated in previous responses, assessment of the degree of potential environmental contamination must be compared to background concentrations. The NSY should proceed with development of background concentrations in soil, groundwater and any other potentially affected media.

Response: Addressed in Section 1, Volume III of current document.

Comment 6: Comment 3 of the Department's previous review concerned the NSY's proposed Investigation Derived Waste (IDW) management procedures. In this comment, the Department suggested that the NSY temporarily store IDW in a secure area while waiting analytical results. The NSY responded that IDW generated in unsecured areas would be transported to a central, secure location. Per a January 5, 1994 telephone conversation between David Walton of the Department and Tony Hunt of the NSY, the NSY will send a letter stating specifically the procedures to be followed for IDW management.

Response: Addressed in Section 16, Volume II of current document.

Comment 7: Comment 8.B of the Department's previous review noted that deeper (1 to 3 feet and 3 to 5 feet) soil samples collected in the vicinity of SWMU 7 — PCB Transformer Storage Area should be analyzed for PCBs. The NSY had proposed to analyze only surface soils (0 to 1 foot depth for PCBs first. If PCBs were detected in any of these samples, then deeper intervals would be analyzed from that particular boring. However, as stated in the Department's comment, deeper soil samples must be analyzed for PCBs regardless of whether PCBs are detected in shallower soil samples. Even though it is understood that PCBs are relatively immobile, their presence at deeper soil intervals should not be discounted, even if there are no detections in shallower soil samples. Therefore, the Area should be analyzed for PCBs. The NSY had proposed to analyze only surface soils (0 to 1 foot depth) for PCBs first. If PCBs were detected in any of these samples, then deeper intervals would be analyzed from that particular boring. However, as stated in the Department's comment, deeper soil samples must be analyzed for PCBs regardless of whether PCBs are detected in shallower soil samples. Even though it is understood that PCBs are relatively immobile, their presence at deeper soil intervals

should not be discounted, even if there are no detections in shallower soil samples. Therefore, the NSY must analyze a representative number of deeper soil samples for PCBs regardless of whether or not PCBs are detected in the shallower soil samples.

Response: Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 8: Comment 10.C of the Department's previous review of the RFI Workplan noted in part that a successful soil sampling program must include collection of representative number of soil samples from within the area of SWMU 9 — Closed Landfill. Thus, the NSY's proposed strategy of collecting soil samples only from areas identified in the Geophysical Survey and the Soil Gas Survey is inadequate. Soil samples must be collected from within the entire area of SWMU 9. The NSY should consult available guidance (EPA Region IV SOP/QAM, RFI Workplan Guidance, etc.) to determine the optimum grid size over which soil samples should be collected. The RFI Workplan must be revised to include a discussion of the grid size, number of samples, depths of samples, etc. for assessing SWMU 9.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 9: Comment 10.D concerned the number and status of monitoring wells around SWMU 9 — Closed Landfill. In response, the NSY noted that two wells, CSY-FMW2 and CSY-FMW4, were installed in 1991. However, the Hazardous Waste Section of the Department does not have a record of issuing approval for installation of these wells. The NSY should furnish documentation indicating that these wells were approved by the Department prior to installation, along with construction details and any analytical data that have been generated from samples collected from them.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 10: Comment 11 of the Department's review noted that a proposed soil sampling grid system should be expanded to cover a larger area since the exact location of SWMU 12 — Old Fire Fighter Training Area is unknown. The NSY responded that soil samples will be collected in the suspected area of SWMU 11 and screened with a Photo Ionization Detector (PID) to help locate this fire training pit. This approach appears reasonable. The NSY must locate this pit using whatever means are necessary during the RFI.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 11: The Department's comment 12.A noted that the asphalt area of SWMU 13 — Current Fire Training Area should be inspected for integrity. The NSY responded that it would conduct such an inspection during the RFI and collect soil samples from areas below significant cracks. However, the response did not specify the criteria for determining how a crack would be considered "significant". Therefore, the NSY should collect soil samples beneath all cracks that are observed to extend at least half way through the asphalt.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 12: Comment 15 concerned a PCB spill area known as SWMU 18. It was unclear in the RFI Workplan if this spill area was properly assessed and remediated immediately after the most current review, this SWMU should be investigated in the RFI, even though it is not listed as requiring an RFI in the NSY's RCRA permit. Section 2.6.19 states that no further investigation of this SWMU will be completed during the RFI. However,, NSY's response to comment 16 states that since SWMU 19 is located within the boundaries of SWMU 9, it will be addressed during the investigation activities conducted there. This response is appropriate, however, the text of the Workplan was not modified to be consistent with the response. NSY must thoroughly assess SWMU 19, first by determining if a release has occurred to soils via collection of soil samples. Pending results of these samples, assessment of groundwater contamination may be necessary at this SWMU.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 13: Comment 19.a noted that soil samples collected at SWMU 22 — Old Plating Shop Waste Treatment System and SWMU 25 — Building 44, Old Plating Operation should not be analyzed as proposed in the Workplan. As proposed in the August 1992 version of the RFI Workplan, soil samples would be collected from discrete, one foot intervals to a depth of four feet. The shallowest soil sample from a particular boring would be analyzed first, and if contamination was detected, then the deeper sample from that boring would be analyzed. The Department's comment noted, however, that samples from deeper intervals should be analyzed regardless of the analytical results of the shallower samples. The NSY responded that soil samples would be collected from the surface to one foot depth, then at two foot intervals thereafter, so that the soil sampling scheme is consistent with that used at other SWMUs in this RFI. However, the Workplan has been edited so that the current version (November 1993)

contains less detail regarding the proposed assessment of this SWMU than the previous version (August 1992). The text describing assessment of SWMUs 22 and 25 (Section 3.22) does not indicate that depth discrete samples will be collected nor the specific analyses that will be completed on the soil samples. Therefore, the NSY must collect depth discrete soil samples from 0 to 1 foot depth, 1 to 3 feet depth, and 3 to 5 feet depth, etc. until groundwater is encountered. The soil and groundwater samples must be analyzed for volatile organics, semivolatile organics, RCRA metals and cyanide.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 14: Comment 19.b noted that five monitoring wells in the vicinity of SWMU 22 — Old Plating Shop Waste Treatment System and SWMU 25 — Building 44, Old Plating Operation were proposed to be installed in an approximately linear orientation. The Department's comment noted that the locations of these wells should be modified to provide more of a triangular spatial orientation between the wells. NSY's response notes, in part, that "Spatial variation and orientation of the final well locations will be determined in the field using best professional judgement." However, previous to this sentence in the response, NSY notes that the "proposed well locations were sighted during a visit to the SWMU and are arranged as proposed in order to make them accessible." If the proposed locations are based on information gathered from a visit to the SWMU, then it should not be necessary to use "best professional judgement" to alter locations of the wells immediately prior to installation. Further, monitoring wells that are approved by the Department for installation should be installed in the locations that are approved by the Department. If it is necessary to alter the location of a monitoring well due to unforeseen field conditions, then the Department should be notified of such prior to installation.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 15: Section 2.6.19 describes SWMU 19 — Solid Waste Transfer Station. As noted in all of the Department's previous reviews of the RFI Workplan, including comment 16 of the most current review, this SWMU should be investigated in the RFI, even though it is not listed as requiring an RFI in the NSY's RCRA permit. Section 2.6.19 states that no further investigation of this SWMU will be completed during the RFI. However, NSY's response to comment 16 states that since SWMU 19 is located within the boundaries of SWMU 9, it will be addressed during the investigation activities conducted there. This response is appropriate, however, the text of the Workplan was not modified to be consistent with the response. NSY must thoroughly assess SWMU 19, first by determining if a release has occurred to soils via

collection of soil samples,. Pending results of these samples, assessment of groundwater contamination may be necessary at this SWMU.

Response: This verbiage does not appear in the current document. Note, individual SWMUs shall be specifically addressed in subsequent zone specific workplans.

Comment 16: Comment 22.B of the Department's review noted that soil samples should be collected from beneath cracks observed in the asphalt of SWMU 30 — Satellite Accumulation Area — Building 13. The Workplan notes in Section 3.26 that distinct cracks were observed in the asphalt during an inspection. However, the Workplan does not include provisions for collection of samples from beneath these cracks. Soil samples should be collected from beneath any cracks in the asphalt that penetrate through greater than half the thickness of the asphalt. Samples should be analyzed for volatiles, semivolatiles, PCBs and RCRA metals.

Response: Note that individual SWMUs shall be specifically addressed in subsequent zone specific work plans.

SECTION E

RCRA FACILITY INVESTIGATION WORK PLAN OUTLINE

RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE	
Part B Permit Requirements	Response
I. RFI Workplan Requirements	
I. A. Project Management Plan	VOL.1, PROJECT MANAGEMENT PLAN (PMP).
I. B. Sampling and Analysis Plan(s)	VOL.2, COMPREHENSIVE SAMPLING AND ANALYSIS PLAN (CSAP).
I. B. 1. Sampling Strategy	
I. B. 1. a.	VOL.2, CSAP SECTS. 4,6,7,8
I. B. 1. b.	VOL.2, CSAP SECT. 10.
I. B. 1. c.	VOL. 2, CSAP SECT. 2
I. B. 1. e.	VOL. 2, CSAP SECT. 2
I. B. 1. f.	VOL.2, CSAP SECT. 12
I. B. 1. g.	VOL.2, CSAP SECTS. 4,6,7,8
I. B. 1. h.	VOL.2, CSAP SECTS. 4,6,7,8
I. B. 2. Sampling Procedures	
I. B. 2. a.	VOL.2, CSAP SECT. 14
I. B. 2. a. i.	VOL.2 CSAP SECTS. 11,14
I. B. 2. a. ii.	VOL.2 CSAP SECTS. 11,14
I. B. 2. a. iii.	VOL.2 CSAP SECTS. 11,14
I. B. 2. a. iv.	VOL.2, CSAP SECTS. 12,14
I. B. 2. a. v.	VOL.2, CSAP SECTS. 13,14
I. B. 2. a. vi.	VOL.2, CSAP SECTS. 16,14
I. B. 2. a. vii.	VOL.2, CSAP SECTS. 5,14
I. B. 2. a. viii.	VOL.2, CSAP SECTS. 3,4,5,6,7,8,9,10,11,14
I. B. 2. a. ix.	VOL.2, CSAP SECTS. 4,6,8,9,10,14
I. B. 2. a. x.	VOL.2, CSAP SECTS. 15,14
I. B. 2. b.	VOL.2, CSAP SECT. 11
I. B. 2. c.	VOL.2, CSAP SECT. 11
I. B. 2. d.	VOL.2, CSAP SECT. 11
I. B. 2. d. i.	VOL.2, CSAP SECT. 11
I. B. 2. d. ii.	VOL.2, CSAP SECT. 11

RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE	
Part B Permit Requirements	Response
I. B. 3. Sample Analysis	
I. B. 3. a.	VOL.5 LAB SOP/QCM'S
I. B. 3. a. i.	VOL.5 LAB SOP/QCM'S
I. B. 3. a. ii.	VOL.5 LAB SOP/QCM'S
I. B. 3. a. iii.	VOL.5 LAB SOP/QCM'S
I. B. 3. b.	VOL.2, CSAP SECT.11, VOL.5 LAB SOP/QCM'S
I. B. 3. c.	VOL.2, CSAP SECT.11, VOL.5 LAB SOP/QCM'S
I. B. 3. c. i.	VOL.2, CSAP SECT.11, VOL.5 LAB SOP/QCM'S
I. B. 3. c. ii.	VOL.2, CSAP SECTS. 4,6,7,8,9,10, VOL.5 LAB SOP/QCM'S
I. B. 3. c. iii.	VOL.5 LAB SOP/QCM'S
I. B. 3. c. iv.	VOL.2, CSAP SECTS. 4,6,7,8,9,10,11, VOL.5 LAB SOP/QCM'S
I. B. 3. c. v.	VOL.5 LAB SOP/QCM'S
I. B. 3. d.	VOL.5 LAB SOP/QCM'S
I. B. 3. d. i.	VOL.5 LAB SOP/QCM'S
I. B. 3. d. ii.	VOL.5 LAB SOP/QCM'S
I. B. 3. d. iii.	VOL.5 LAB SOP/QCM'S
I. B. 3. d. iv.	VOL.5 LAB SOP/QCM'S
I. B. 3. d. v.	VOL.5 LAB SOP/QCM'S
I. B. 3. e.	VOL.5 LAB SOP/QCM'S
I. B. 3. f.	VOL.5 LAB SOP/QCM'S
I. B. 3. g.	VOL.5 LAB SOP/QCM
I. B. 3. g. i.	VOL.5 LAB SOP/QCM'S
I. B. 3. g. ii.	VOL.5 LAB SOP/QCM'S
I. B. 3. g. iii.	VOL.5 LAB SOP/QCM'S
I. B. 3. g. iv.	VOL.5 LAB SOP/QCM'S
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RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE	
Part B Permit Requirements	Response
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Part B Permit Requirements	Response
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RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE	
Part B Permit Requirements	Response
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II. A. 2. h.	VOL.2, CSAP SECT.4
II. A. 2. i.	VOL.2, CSAP SECT.4
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RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE	
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II. A. 4. a. i.	TO BE INCLUDED IN ZONE SPECIFIC WORK PLAN
II. A. 4. a. ii.	TO BE INCLUDED IN ZONE SPECIFIC WORK PLAN
II. A. 4. a. iii.	TO BE INCLUDED IN ZONE SPECIFIC WORK PLAN
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II. A. 4. a. vii.	TO BE INCLUDED IN ZONE SPECIFIC WORK PLAN
II. A. 4. a. viii.	TO BE INCLUDED IN ZONE SPECIFIC WORK PLAN
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II. A. 4. b. ii.	TO BE INCLUDED IN ZONE SPECIFIC WORK PLAN
II. A. 4. b. iii.	TO BE INCLUDED IN ZONE SPECIFIC WORK PLAN
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RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE	
Part B Permit Requirements	Response
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II. B. 1. Unit/Disposal Area Characteristics	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
II. B. 1. e.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
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II. B. 2. a. ii.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
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II. B. 2. b. ii.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2

RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE	
Part B Permit Requirements	Response
II. B. 2. b. iii.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
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II. B. 2. b. vi.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
II. B. 2. b. vii.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
II. B. 2. b. viii.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
II. B. 2. b. ix.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
II. B. 2. b. x.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
II. B. 2. b. xi.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
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II. B. 2. c.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
II. B. 2. c. i.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
II. B. 2. c. ii.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2

RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE	
Part B Permit Requirements	Response
II. B. 2. c. iii.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
II. B. 2. c. iv.	SPECIFIC UNIT CHARACTERISTICS SHALL BE ADDRESSED IN THE ZONE SPECIFIC WORK PLANS PER VOL. 1, PMP SECT. 2.2
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II. C. 1. c.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 1. d.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 1. e.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 1. f.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 2.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 2. a.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 2. b.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 2. c.	TO BE INCLUDED IN FINAL RFI REPORT
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II. C. 2. e.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 3.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 3. a.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 3. b.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 3. c.	TO BE INCLUDED IN FINAL RFI REPORT
II. C. 3. d.	TO BE INCLUDED IN FINAL RFI REPORT
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RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE	
Part B Permit Requirements	Response
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II. D. 2.	VOL.3 BRA AND RFI REPORT
II. D. 2. a.	VOL.3 BRA AND RFI REPORT
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II. D. 2. c.	VOL.3 BRA AND RFI REPORT
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II. D. 3.	VOL.3 BRA AND RFI REPORT
II. D. 3. a.	VOL.3 BRA AND RFI REPORT
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