

**RESPONSES TO OEPA COMMENTS
ON THE AUGUST, 1997 DRAFT
WASTE ACCEPTANCE CRITERIA ATTAINMENT PLAN
FOR THE ON-SITE DISPOSAL FACILITY**

**FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO**

JANUARY 1998

**U.S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE**

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GENERAL COMMENTS

1. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Comment Pg #: Line #: Code: M
Original Comment #: 1

Comment: During the meeting held on September 17, 1997 methods of incorporating several real-time gamma spectroscopy methods into this Plan were discussed. One alternative was to add the gamma methods as an appendix to the final document. A major reason for pursuing this strategy was to save time and effort. The Ohio EPA would like to suggest that the entire Plan be re-written to incorporate the use of real-time into the body of the Plan rather than as an appendix. By doing this we want to achieve a greater likelihood that the real time gamma methods will actually be implemented in a more consistent fashion.

The regulators as part of the real-time working group have asked to review the procedures for both the RTRAK and HPGe detectors. These procedures could be incorporated into the Appendices of either this Plan or the Site-Wide Excavation Plan as appropriate.

Response: Comment acknowledged. DOE agrees that use of real-time monitoring can considerably enhance the methodology for complying with Operable Unit 2 and 5 Records of Decision requirements related to attainment of OSDF WAC. As such, DOE will incorporate into the revised document the use of the high-purity germanium (HPGe) detector and the radiation tracking system (RTRAK) to provide a more complete screening of soils to be placed in the OSDF.

As you know, the HPGe Comparability Study Report and RTRAK Applicability Study Report described the two real-time systems currently in use. These reports described, in detail, the instrument detector systems, identified key data quality parameters, evaluated the usefulness and quality of data that each instrument produces, and also proposed how best to utilize these instruments in soil remediation. However, what is lacking in these reports is the implementation guidelines and procedures. Further, DOE recognizes that for the RTRAK and HPGe systems to be used routinely to support soils remediation (WAC attainment in particular), each system must meet EPA and DOE requirements for Quality Assurance. A Quality Assurance and Quality Control (QA/QC) program must be established, including necessary procedures, to implement the real-time program. The elements of the QA/QC program are described in the response to Comment No. 22.

Separate from the QA/QC program which is being developed, the FEMP is also working on developing documentation which will detail the objectives, limitations and intended use strategies (e.g., WAC attainment, Hot Spot removal, pre-certification) associated with HPGe and RTRAK systems. ~~This new real-time radiological field screening usability report~~ will be a stand-alone document detailing the specific objectives, limitations, and procedures governing the application of real-time

technologies relative to the specific measurements, such as in WAC attainment, hot spot removal and pre-certification. Instead of attaching or incorporating the real-time procedures into the WAC Attainment Plan, DOE recommends that real-time procedures be coordinated through the Site-Wide CERCLA Quality Assurance Project Plan (SCQ). After the establishment of the QA/QC program (described in the response to Comment No. 22) and the completion of the draft real-time objectives and limitations report, the FEMP will submit an Addendum to the SCQ, for EPA and Ohio EPA review and approval, that incorporates real-time procedures into the SCQ.

Action: The revisions to the WAC Attainment Plan will consist of the following: The second paragraph of Section 4.1 will be revised. The approach to using real-time monitoring in WAC attainment will be discussed in detail in Section 4.1 of the WAC Attainment Plan and references to real-time monitoring will be added throughout Section 4.0. The actual procedures for real-time characterization will be provided to EPA and Ohio EPA as a formal Addendum to the FEMP's SCQ.

2. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Comment Pg #: Line #: Code: M
Original Comment #: 2

Comment: The WAC Attainment Plan relies solely on soil concentration data to assess potential WAC exceedance areas. The plan should be revised to state that additional data such as groundwater and surface water results as well as process knowledge and real-time monitoring will be used to expand upon the current RI/FS data base and guide supplemental sampling.

Response: Agreed. The additional data sources noted by the Commentor, and their role in supporting the RI/FS database to guide additional sampling as part of the WAC attainment demonstration strategy, will be added to the revised plan. These items were presented to EPA and OEPA in a number of the working sessions on soil excavation/WAC attainment held over the last month, and it is important that they be highlighted in the document where the individual excavation approaches are discussed.

Action: Incorporate requested items noted by this general comment into Sections 4.2.1.1 and 4.2.1.3 where additional sampling strategies are discussed.

3. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Comments Pg #: Line #: Code: M
Original Comment #: 3

Comment: The Ohio EPA has continually insisted that the WAC Attainment Plan should be a stand-alone document that will govern all aspects of OSDF disposal. It is not acceptable to defer this Plan to other documents. Please remove the sentence that resolves inconsistencies between the WAC Plan and other documents in favor of the supporting document.

Response: Agreed. The requested sentence will be removed. A better explanation of the role of the WAC Attainment Plan as a general "umbrella" document within the FEMP's document hierarchy will also be provided, along with a document road map to alert readers as to where they can find additional area-specific implementation information that is consistent with the general umbrella plan. Both EPA and Ohio EPA raised a concern that the WAC plan needs to remain current as a general plan that provides the foundation from which the area-specific detailed design packages can be built. As an example, Ohio EPA requested in Comment Nos. 25-30 that DOE remove the approval process for selecting the area-specific WAC COCs for soil from the WAC Attainment Plan, and move this approval and supporting documentation to the detailed design documents (IRDPs and supporting PSPs) that follow the WAC Attainment Plan. (The

overall concept of the use of area-specific WAC COCs will be described in the WAC Attainment Plan, but the actual approval of the short lists, and their support, will be furnished via follow up design documents).

Action: Remove requested sentence on line 21, page 1-3, and provide clarifications in ~~Section 1.3~~ concerning the role of the WAC Attainment Plan as a first-tier, "umbrella" document as indicated above.

4. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: General Comments Pg #: Line #: Code: M
 Original Comment #: 4

Comment: The document should include or reference a document which will define the mechanism for tracking waste volume data and make comparisons to estimated volumes being disposed of on-site and off-site. Ohio EPA believes this data evaluation is important for considering how actual volumes relate to WAC modeling, OSDF design, excavation design, etc.

Response: Agreed. As a natural course of the remediation, the FEMP plans to track the quantities and origins of placed impacted material volumes that are disposed of on-site and off-site. However, because of differences in bulking factors for various materials and the varying compaction requirements for the variety of materials disposed of at the OSDF, it will be possible to draw only approximate correlations back to the estimated volumes produced during the FEMP's RI/FS process. The actual placed volumes will still be useful for OSDF capacity planning (i.e. did the placed volumes for the OU2 Southern Waste Units closely match the capacities in the OSDF set aside for these materials; will the OSDF reach its projected size and configuration, etc.) and other planning estimates needed to track the progress of the remediation. As part of the volume tracking effort, the FEMP will maintain a waste-category-specific tracking system to account for the post-placement volumes in the OSDF, and the general volumes (or weights) sent off site for disposal. Current-in-time summaries of the ongoing placed-volume tracking efforts (e.g., that are current with each major implementation step for the FEMP's soil remediation and D&D actions) will be available for review on an "as requested" basis during cleanup. Project-closeout-related placed volume summaries will also be prepared to formally document the placed volumes following the completion of each major remedial action component of the site-wide remedy (i.e., as part of the FEMP's D&D complex closeout reports; and as part of the area-specific certification reports that follow completion of soil excavation activities within an individual soil remediation area). A final master site-wide summary of placed and shipped materials would also be expected to be produced as part of the FEMP's site-wide final closeout documentation. As Ohio EPA indicated at the November 5, 1997 comment meeting, the agency is looking for the OSDF-placed-volume soil tracking activity to be no more complex than the FEMP's system used to track the excavation subcontractor's progress and pay items.

Action: ~~At the end of Section 2.1~~ provide a description of the placed and shipped volume tracking efforts to be performed for each media category discussed in the plan (Soil, Debris and Ancillary Waste) and identify the reporting measures that are planned to be implemented.

SPECIFIC COMMENTS

5. Commenting Organization: OEPA Commentor: OFFO
Section #: 1.1 Pg. #: 1-1 Line #: 13-15 Code: C
Original Comment #: 5
Comment: Ohio EPA disagrees with DOE's assertion that it was not until March 5, 1997 that need for a WAC Attainment Plan was established. In December of 1996 Ohio EPA included the need for a WAC plan in a list of concerns provided to DOE. The need for a WAC plan was discussed for several months prior to December. Both Ohio EPA and USEPA have expressed the need for a WAC Attainment Plan, as well as our concern with DOE's delay in submitting one, numerous times over the past year.
Response: Comment acknowledged. In the sentence noted in the comment, DOE was looking to find a way to link the IMP Plan (which is primarily engineering based) with the WAC Attainment Plan. DOE used the March 5, 1997 IMP Plan review meeting to make this convenient link. Additional language will be added to reflect the earlier history regarding requests made for the plan, as raised by Ohio EPA.
Action: Additional clarification was provided in Section 1.1 concerning the evolutionary history of the WAC Attainment Plan prior to March 5, 1997, as requested. It was noted that the commitment for the plan was the result of needs identified by EPA and OEPA prior to this date, that culminated in the definition of the plan scope at the meeting.
6. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.2 Pg. #: 1-2 Line #: 31 Code: C
Original Comment #: 6
Comment: Please elaborate on the specific WAC requirements for the materials mentioned in this paragraph. For example, since water treatment plant residuals (understood to be sludges, filter cakes, etc.) are soil-like materials, can we assume that the Operable Unit 5 WAC for soils will be the governing WAC? In the case of PPE, these items could also be spread and compacted in lifts in the OSDF. Will the soil WAC be applied here, also? An argument could be made that PPE used in D&D activities should be treated as debris. The criteria that no PPE with visible traces of colored uranium salts would be permitted in the OSDF would logically follow from the debris interpretation. Another unmentioned possibility is the case of lab returns. If these have been treated with acid as a preservative, will the lab returns be neutralized to remove the characteristic of corrosivity prior to disposal? Please anticipate additional concerns along these lines of reasoning and address them when responding to this comment.
Response: Section 1.2 is meant to be a general introduction to the OSDF WAC Attainment Plan and the topics covered. Each of the issues raised in the comment are discussed in detail in Section 3.5 "WAC for Allowable Ancillary Remediation Waste" and Section 6.0 "WAC Attainment Plan for Ancillary Waste." In general, soil WAC will apply to the AWWT treatment residuals, debris WAC will apply to PPE generated during remediation, and soil WAC will apply to the specific lab returns that are currently anticipated. Sections 3.5 and 6.0 provide additional detail and discussion on the application and attainment of OSDF WAC for ancillary waste.
Action: No action.

7. Commenting Organization: OEPA Commentor: OFFO
 Section # : 1.2 Pg. #: 1-2 Line # 35-37 Code: C
 Original Comment #: 7
 Comment: Soils classified as RCRA hazardous waste from the OU2 firing range area were also excluded from disposal in the OSDF. These soils were specifically excluded from on-site disposal by the OU2 Record of Decision. These soils should be referenced here in the WAC Plan and removed from other portions of the document addressing possible treatment and on-site disposal.
 Response: Agreed. The Operable Unit 2 ROD states that soil containing bullets will be assumed to be mixed waste (due to the presence of the lead bullets) and will be sent off-site for disposal. Excavated soil from the firing range that does not contain bullets will undergo TCLP analysis to determine if it is hazardous. If the soil is not hazardous, it will be managed with the other South Field material. The determination of the volume of excavated soil that will be sent off-site for disposal is based upon the results from the TCLP analysis. Details of the TCLP sampling and analysis methods for the South Field Firing Range will be provided in a PSP prior to sampling. Section 1.2 will be revised and all subsequent references to this material being disposed on site will be deleted.
 Action: The requested text was added to Section 1.2. All references to the firing range as an area where potentially characteristic hazardous materials could be treated prior to placement in the OSDF will be modified accordingly.

8. Organization: OEPA Commentor: OFFO
 Section # : 1.3 Pg. #: 1-3 Line # 21-22 Code: C
 Original Comment #: 8
 Comment: Ohio EPA disagrees with the suggestion that support plans should prevail over the WAC Plan. The WAC Plan should be the basis for development of all future support plans and should be the over-riding document for decisions regarding WAC attainment. If changes to the process for WAC attainment are needed in the future the revisions to the WAC Attainment Plan should be submitted to the EPAs for review and approval. Following that approval, revisions to support plans could be developed including the process change.
 Response: Agreed. Additional language will be added to further clarify that the WAC Attainment Plan is intended to function as the general, "first tier" document concerning WAC attainment, and further documents produced as part of the hierarchy will be subordinate to this plan, serving to provide progressive implementation details on an area-specific basis. It is further agreed that if high-level changes in the WAC attainment strategies occur at a later date, revisions of the WAC Attainment Plan will be prepared and furnished to the EPAs for review and approval. Note that if the changes are not high level (concept or strategy) changes but rather are implementation detail based, the revisions will be handled through the revision of subordinate area-specific documents as necessary.
 Action: On line 21-22, page 1-3, remove the sentence concerning the suggestion that the support plans prevail over the WAC Attainment Plan. Provide additional clarifying language in Section 1.3 concerning the role of the WAC Attainment Plan as the first-tier "umbrella" plan, and note the EPA's review and approval role for future revisions. See also Comment No. 3.

9. Commenting Organization: OEPA Commentor: OFFO
 Section # : 1.4 Pg. #: 1-4 Line # 9-12 Code: C
 Original Comment #: 9
 Comment: The text should be revised to include a statement that all revisions or modifications to the process for WAC attainment outlined in the WAC Attainment Plan will be submitted as revisions to the document for review and approval by Ohio EPA and USEPA.
 Response: Agreed. Text will be added for requested change.
 Action: ~~The following text was added to Section 1.4: "All revisions or modifications to the process for WAC attainment outlined in the WAC Attainment Plan will be submitted for review and approval by EPA and OEPA."~~ See also response to Comment No. 8.
10. Commenting Organization: OEPA Commentor: OFFO
 Section # : 2.5.1 Pg. #: 2-6 Line # 2-13 Code: M
 Original Comment #: 10
 Comment: Soils classified as RCRA hazardous waste from the OU2 firing range area were also excluded from disposal in the OSDF. These soils were specifically excluded from on-site disposal by the OU2 Record of Decision. These soils should be referenced here in the WAC Plan and removed from other portions of the document addressing possible treatment and on-site disposal.
 Response: See response for Comment No. 7.
 Action: See action for Comment No. 7.
11. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.5.2 Pg #: 2-8 Line #: 14 Code: C
 Original Comment #: 11
 Comment: The phrase "highly elevated direct radiation fields" is imprecise. Please offer any clarifications that can be made now and a reference to future submittals that will establish these parameters more precisely.
 Response: Section 9.1.6 of the Operable Unit 4 Record of Decision (ROD) provides that the demolition debris from Operable Unit 4 will be dispositioned consistent with the final remedy for Operable Unit 3. Section 9.1.4 of the ROD states that "contaminated concrete from Silos 1 and 2, which exhibit highly elevated direct radiation fields, will be separated from the other Operable Unit 4 concrete and construction debris and prepared for processing in the vitrification facility."
- The intent of these ROD provisions was to segregate the highly contaminated concrete from Silos 1 and 2 for potential vitrification and off-site disposal. This material was proposed to be segregated to minimize the opportunity for human exposure to the elevated direct radiation fields associated with any K-65 residues that may have impregnated the concrete in the silo structures. It was envisioned that handling this concrete material utilizing the same processes and controls as those employed for the residues themselves would serve to minimize these potential exposures.
- DOE concurs that the term "highly elevated radiation fields" is imprecise. However, recognizing the current status and path forward for Silos 1 and 2, DOE does not consider it to be the appropriate time to establish more definitive or quantitative thresholds. DOE views that the defining of such limits should occur only after careful consideration of the implementation strategy for the selected technology for Silos 1 and 2. With this in mind, DOE proposes to define a path forward for resolving this issue as part of the remedial design process for Silos 1 and 2 of Operable Unit 4.

Action: Text will be added to page 2-9 of the plan to clarify that a more quantitative delineation of "highly elevated direct radiation fields" will be provided during the remedial design process for Operable Unit 4.

12. Commenting Organization: OEPA Commentor: OFFO
 Section # : 2.6.2 Pg. #: 2-11 Line # 12-18 Code: C
 Original Comment #: 12

Comment: It is Ohio EPA's understanding that debris generated through OU2, OU4 and OU5 remediation were not included in the OU3 WAC modeling for debris. Considering the lack of information concerning debris volume, waste concentrations and its leachability from these debris streams, DOE must provide additional information supporting the inclusion of these other debris streams under the OU3 debris WAC.

Response: ~~Comment Acknowledged. The below-grade miscellaneous debris addressed by this comment was not explicitly included in the WAC calculations for debris presented in the Operable Unit 3 FS and ROD. A new section 5.3 will be added to the document that discusses the justification for applying the Operable Unit 3 visual inspection requirements to debris from the other operable units that is eligible for disposal in the OSDF to provide a basis for ensuring that mass-based Operable Unit 3 WAC compliance assumptions are maintained. This new section will also include a new best management practice commitment by the FEMP to remove and send off-site the segregatable actual and/or suspected acid brick that is unearthed during soil excavation activities, including the excavation of the Operable Unit 2 waste units. The segregatable brick will be defined, for implementation purposes, as that quantity of unearthed brick which is readily observable and which can be safely removed during normal soil excavation and/or soil placement activities at the OSDF. As discussed with EPA and Ohio EPA in recent comment resolution meetings, the intent of the brick segregation is to remove as much brick as is reasonably possible in the field to further reduce the chance that process-related residuals are not being placed in the OSDF. This commitment and its basis will also be added to Section 2.6.5.~~

Action: ~~Incorporate new information referenced in the response above in Section 5.3 and 2.6.5.~~

13. Commenting Organization: OEPA Commentor: OFFO
 Section # : 2.6.4 Pg. #: 2-13; 2-14 Line # 20-22; 7-14 Code: C
 Original Comment #: 13

Comment: Though Ohio EPA concurs that the OU5 WAC are conservative, we do not agree with the discussion in this section nor the implied acceptability of disposal of soils exceeding the WAC in the OSDF. The WAC is a limit which is not to be exceeded. Regardless of volume, soil exceeding the WAC is prohibited from disposal in the OSDF. Ohio EPA regards disposal of soils exceeding the WAC in the OSDF as a violation of the Records of Decision, the approved OSDF design, and the waiver of Ohio Solid Waste Siting Criteria. The section must be revised to delete the referenced sections and to state the fact the WAC is a limit which is not to be exceeded.

Response: Comment acknowledged. This comment requests that the referenced text addressing the conservatism incorporated into the development of the contaminant-based Waste Acceptance Criteria (WAC) be deleted from the document. The subject text indicated that (1) even if the soil volume determined through the RI/FS studies to be contaminated above the 1030 ppm uranium WAC limit (conservatively estimated at 25,000 cubic yards or less) was accidentally or inadvertently placed in the OSDF along with the other soil, the average uranium concentration would still remain at approximately 100 ppm and (2) based on the known actual distributions of uranium and the other WAC constituents of concern in the FEMP environment, there would be no

expected cumulative impact to the Great Miami Aquifer at the downgradient edge of the OSDF even if all of the above-WAC soil volume for all of the WAC constituents of concern was accidentally or inadvertently placed in the facility. As was indicated at the November 5, 1997 meeting, DOE would like to keep intact the essential elements of the discussion in this section regarding the conservatism in the WAC development process, to provide perspective and educate the expanding level of FEMP personnel who are now involved in the various facets of the waste characterization, dispositioning and tracking process. Many of these individuals were not part of the RI/FS process. In other words, this plan will be used by a fairly broad audience at the FEMP, and many members of this audience were not closely tied to the original WAC development process. The original inclusion of this section was not meant to imply that the FEMP is planning to purposely place above WAC materials in the OSDF, as the FEMP fully recognizes that the WAC represent maximum permissible limits (i.e., "not to exceed" levels). This has been acknowledged throughout the FEMP's key documents (for example, see Ohio EPA's Comment 2B on page A.3-90 in the Responsiveness Summary for the OU5 ROD, which states that the WAC must be an upper limit of concentration and not used as an average limit). Section 3-3 of the WAC Attainment Plan, which lists the various general WAC attainment requirements, clearly recognizes that the OSDF WAC represent maximum values, rather than averages, and further acknowledges that planned blending (i.e., dilution) is not to be used to satisfy the OSDF WAC.

As indicated throughout the development of the WAC Attainment Plan, the FEMP is committed to fulfilling the demonstration approaches that are conveyed in the WAC Attainment Plan (along with the detailed steps that are to be provided in the follow-up detailed design documents). These approaches and detailed steps collectively serve as the FEMP's plan for addressing compliance with the maximum permissible WAC limits, and represent the most reasonable approach for identifying and removing above-WAC contaminated soils and soil-like materials. The WAC attainment compliance processes are all interwoven so as to provide a robust system to preclude the disposal of above-WAC material. If a positive above-WAC result is obtained during the execution of any element of the WAC attainment process, the FEMP will honor that result -- and the resultant material that is indicated to exceed the maximum concentration levels will not go in the OSDF.

As stressed throughout the development process, DOE believes that any WAC attainment strategy must be implementable, and further believes that the demonstration strategies that have been identified for inclusion in the revised WAC Attainment Plan meet this criterion. DOE thus agrees that the implementation of a WAC attainment strategy for soil can be based on an approach which defines the WAC contaminant criteria as "not to exceed values" provided the approach is implementable and well-understood by all stakeholders.

Action: DOE will revise Section 2.6.4 to make sure that there is no confusion that what is being discussed is a hypothetical situation, resulting from the accidental or inadvertent placement of above WAC material in the OSDF, and not the planned placement of such material. DOE will provide the reference, as requested, that the WAC are "not to exceed" values, and will further reference the reader to Section 3.3, where this is clearly conveyed as a recognized requirement. As discussed throughout this comment response document, DOE will be adding further information throughout the document that speaks to the FEMP's multi-tiered approach for WAC attainment demonstration, including the use of approved real-time analytical techniques as an important step in

enhancing the approach. DOE will also add information in the appropriate sections of the document that discusses the step-wise actions to be taken if independent sampling by the agencies were to indicate the presence of above-WAC materials not revealed by the multi-tiered approach.

14. Commenting Organization: OEPA Commentor: OFFO
 Section #: 2.6.5 Pg. #: 2-14 Line #: 17-20 Code: C
 Original Comment #: 14
 Comment: The text should note that Ohio EPA and local residents commented on the need to restrict the disposal of RCRA characteristic waste in the OSDF. In addition, restriction of such waste was a requirement of Ohio EPA support for waiver of Ohio's Solid Waste Siting Criteria.
 Response: Based on this comment and a comment from U.S. EPA, the text will be revised to ~~more clearly~~ reflect the FEMP's site-specific plans/commitments for dealing with the treatment and on-site disposal of RCRA characteristic waste under the CAMU designation. The text will be modified on page 2-14 to indicate that local residents also expressed a desire to restrict the disposal of RCRA characteristic waste in the OSDF. Also, text will be added indicating that the restriction of RCRA characteristic waste was also a requirement for obtaining Ohio EPA's support for the waiver of Ohio's Solid Waste Siting Criteria. ~~Additional text will be added to Section 4.3.4 regarding WAC attainment for contaminated soil and subsurface debris associated with HWMU closures (under the FEMP's integrated CERCLA/RCRA closure strategy), and similar text will be added to Section 5.1.2 for the above-grade debris associated with HWMU closures.~~
 Action: ~~The first paragraph of Section 2.6.5 will be revised to read, "During the ROD public comment periods for Operable Units 2, 3, and 5, the local public (primarily FRESH members) and the OEPA commented on the need to restrict the disposal of RCRA characteristic waste in the OSDF (beyond numerical WAC limits). This restriction was also a condition of OEPA support of a necessary waiver from the State of Ohio Solid Waste Disposal Regulations to allow the OSDF to be sited at the FEMP." Additional text has been added to Section 4.3.4 regarding WAC attainment for contaminated soil associated with HWMU closures under the FEMP's integrated CERCLA/RCRA closure strategy. Similar text has been added to Section 5.1.2 for the above-grade debris associated with HWMU closures.~~
15. Commenting Organization: OEPA Commentor: OFFO
 Section #: 2.6.5 Pg. #: 2-15 Line #: 17-20 Code: C
 Original Comment #: 15
 Comment: Delete this paragraph as off-site disposal of these soils is required by the OU2 ROD.
 Response: See response for Comment No. 7.
 Action: See action for Comment No. 7.
16. Commenting Organization: OEPA Commentor: OFFO
 Section #: 2.6.5 Pg. #: 2-16 Line #: 4-15 Code: C
 Original Comment #: 16
 Comment: Delete this paragraph as off-site disposal of these soils is required by the OU2 ROD.
 Response: See response for Comment No. 7.
 Action: See action for Comment No. 7.

17. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 3.1 Pg #: 3-2 Line #: 19-21 Code: C
 Original Comment #: 17
- Comment: The text states that if a material that arrives at the OSDF for disposal is "too wet" for proper placement and compaction, the material will be mechanically processed before its placement. It is not clear how DOE will determine whether material is "too wet." Use of Method 905A (Paint Filter Liquids Test) or Method 9096 (Liquid Release Test Procedure) in SW-846 with a suitable endpoint for acceptance would be appropriate. The text should be revised to identify the criteria that DOE will use to determine whether material is "too wet."
- Response: For clarification, it needs to be noted that the moisture content being referred to here is water content from a soils engineering perspective, and was not meant in any way to imply the disposal of "liquid waste" as that term is defined in the regulations. Soil and soil-like materials must be within 3 percent of optimum moisture content for engineering purposes based on Proctor test results before compaction. If soil or soil-like material is received at the OSDF that does not meet this requirement, it will be mixed with drier material or allowed to air dry before compaction. Sludge material must be dry enough to support a one-foot thick lift of soil compacted to 85 percent standard Proctor dry density. If the moisture content of the sludge is such that it prevents the adequate compaction of the soil, it will be further dried or blended with soil until the compaction requirement can be achieved. The CQC Consultant will be responsible for testing and approving the placement and compaction of this material. The WAC Attainment Plan will be clarified. OSDF technical staff have considered the need for material drying and/or blending and have concluded there is adequate working space at the OSDF for such purposes as spreading the material in thin temporary lifts or for disking the soil to adjust moisture content where needed.
- Action: The last sentence in Section 3.2 will be revised to read, "If a material that arrives at the OSDF for disposal is too wet to meet the moisture content or compaction requirements, the material will be air dried or blended with a drier WAC-acceptable material at the OSDF, in accordance with construction quality control requirements."

18. Commenting Organization: OEPA Commentor: OFFO
 Section #: 3.4 Pg #: 3-5 Line #: lasts paragraph Code: C
 Original Comment #: 18
- Comment: On-site disposal of materials exceeding the physical WAC is not acceptable. Ohio EPA has disapproved the IMP due to the inclusion of these materials. The paragraph and all references to on-site disposal of oversized debris should be removed from the document.
- Response: DOE agrees to remove the current reference in the IMP Plan related to placement of oversized materials in the OSDF. This is based on DOE's understanding that EPA and Ohio EPA do not, at this time, support any revision to the physical waste acceptance criteria for debris to be placed in the OSDF. DOE will specifically evaluate the referenced materials relative to the technical and economic feasibility of recycle/reuse options. It will be DOE's stated goal to reuse or recycle these materials if shown to be technically and economically feasible. If this goal is not feasible, DOE believes it would be appropriate to revisit the issue of material-specific revisions to the OSDF physical WAC.
- Action: The paragraph at the bottom of page 3-5 will be deleted. The listing for oversize debris under Category A on Table 5-1 will be deleted. The second paragraph of Section 5.1.2.3 will be deleted. The note to Table 5-2 will be deleted.

19. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.5.1 Pg #: 3-6 Line #: Code:
Original Comment #: 19

Comment: The last paragraph in this Section states that all PPE will be handled as debris for purposes of physical WAC. Chemical WACs are not addressed. It is worth noting that all PPE will certainly meet the physical WAC requirement.

Response: The PPE will be handled as debris, and therefore the radiological WAC for debris are applicable. It is expected that all PPE will meet the size requirements. It should be noted that there are no chemical WAC for debris (only physical and radiological WAC). The radiological WAC consist of a visual inspection requirement for process-related materials and a commitment to scabble select concrete materials to remove technetium-99 contamination, as identified in the Operable Unit 3 ROD.

In general, the FEMP's radiological control procedures for worker health and safety protection would not permit any PPE-wearing individuals to come in contact with process-related materials in such quantities that the PPE itself would have levels of contamination analogous to the process-related materials that are administratively excluded from on-site disposal by the Operable Unit 3 ROD. This level of worker protection is monitored through a rigorous on-site Radiological Control (RADCON) procedure that tracks the levels of surface contamination of PPE in the work environment as an indicator of procedure success and compliance. As a result of these rigorous controls, all PPE would be suitable for disposal in the OSDF following use. Adding an additional layer of inspection and tracking of the PPE for WAC compliance beyond the RADCON monitoring is unnecessary. All PPE produced from the FEMP's cleanup effort will thus be categorically deemed acceptable for on-site disposal via process knowledge. See also Comment No. 57, which discusses PPE quantities and categorization of PPE based on Operable Unit 3 requirements. As noted in that comment, PPE that is associated with asbestos removal operations will be segregated prior to disposal to meet asbestos placement obligations (i.e. double bagging).

Action: None necessary.

20. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.5.1 Pg #: 3-6 Line #: Code: C
Original Comment #: 20

Comment: As these waste forms were not specifically addressed in any of the ROD WAC determination, information regarding waste volume estimates, contaminant concentrations, leachability, etc. should be provided to support WAC decisions.

Response: See Comment No. 12.

Action: See Comment No. 12.

21. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.5.2 Pg #: 3-6 Line #: Code: C
Original Comment #: 21

Comment: Ohio EPA disagrees with the proposed process for addressing future ancillary waste streams. Future ancillary waste streams should be addressed through addendum to the WAC Attainment Plan, which will be reviewed and approved by the EPAs.

Response: Agreed. The intent of the discussions on future ancillary waste streams was not to limit EPA or Ohio EPA approval of WAC application and attainment to new ancillary waste streams, but rather was to provide assurances that unknown waste streams had been considered and an advance strategy had been developed for applying WAC and determining WAC attainment. The text will be clarified.

Action: The following sentence will be added to the end of the first paragraph of Section 3.5.2 and the end of the first paragraph of Section 6.4, "If additional ancillary waste streams are identified, addenda to this plan will be prepared and submitted to EPA and OEPA for review and approval. These addenda will present the applicable WAC and the WAC attainment strategy for the new ancillary waste streams."

22. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.0 Pg #: 4-0 Line #: Code: C
Original Comment #: 22

Comment: As discussed in a previous comment, Ohio EPA believes it is necessary to incorporate a discussion of the use of real time radiological measurements into this section of the Plan. The text should discuss objectives, limitations and procedures for use of these instruments. Ohio EPA believes the use of real time monitoring is necessary to achieve an acceptable approach for WAC attainment during soil excavation.

Response: Agreed. The major subsections comprising Section 4.0 will be revised to describe the role that real-time radiological instrumentation will play in enabling the preferential identification and removal of contaminated soils and soil-like materials which exceed the waste acceptance criteria for total uranium.

As discussed earlier (Comment No. 1), the HPGe Comparability Study Report and RTRAK Applicability Study Report described the two real-time systems currently in use. These reports described, in detail, the instrument detector systems, identified key data quality parameters, evaluated the usefulness and quality of data that each instrument produces, but lacked the details concerning implementation and limitations associated with each instrument. DOE recognizes that for the RTRAK and HPGe systems to be used routinely to support soil remediation (WAC attainment), additional detail is required as to how the systems will be implemented, their limitations, as well as the implementing procedures. DOE believes that the full discussion of the objectives, limitations, and procedures of the real-time instrumentation is broader than WAC Attainment and, therefore, is best served through an addendum to the SCQ, as discussed in response to Comment No. 1. The paragraphs below provide some discussion (for information purposes) of the objectives, procedures, and limitations of the real-time instrumentation, and the highlights of further development activities.

Objectives:

One of the primary objectives for using real-time radiological characterization equipment is to assist in the identification of soil and materials which contain uranium at concentrations above-WAC limits (1030 ppm). Real-time radiological measurements will be utilized in the initial pre-design phase of excavation planning to help identify (1) previously unknown above-WAC hot spots and (2) the areal extent of above-WAC contaminant concentrations which had been identified during the RI process. Real-time instrumentation will also be used during the pre-design phase to help determine the depth of above-WAC contamination. Through the use of a Geoprobe, continuous (up to 4 ft. although typically 36 to 42 inch) 1.5 inch diameter soil core samples are collected in areas suspected of containing above-WAC concentrations at depth, such as around building foundations or within the Southern Waste Units. Real-time radiological instrumentation will be used to preferentially discriminate the appropriate sections of the continuous soil cores collected by the Geoprobe for laboratory gamma spectrometry analysis. Real-time instrumentation will also be used during excavation activities to both help delineate the limits of RI-identified above-WAC areas and to

identify otherwise unanticipated above-WAC areas which are encountered during the course of the excavation.

Procedures:

DOE recognizes that along with the development of procedures there must also be a Quality Assurance Program established to ensure that procedures are developed and implemented properly. A Quality Assurance and Quality Control (QA/QC) program that contains or addresses a number of minimum requirements will be implemented. The elements of the QA/QC program, as identified below, are scheduled to be in-place by March 27, 1998.

1. Quality Assurance (RTRAK and HPGe): The FEMP is currently developing a QA Program Plan for in-situ gamma spectrometry in accordance with RM-0012, which details the FEMP's quality assurance program (as directed by the SCQ).
2. Quality Control Plan: The FEMP is currently developing a QC Plan or procedure which will address the implementation QC elements that were detailed in Section 5.0 of the HPGe Comparability Study (July, 1997).
3. QC Procedure for Control Charts: The FEMP is currently developing a procedure which will address the generation, use, and maintenance of control charts for HPGe in-situ gamma spectrometry.
4. Quality Control Standards Measurement Data Base: The FEMP has established a data base to record and track measurement data collected from the Field Control Station and detector calibrations for both RTRAK and HPGe.
5. Preventative Maintenance Procedure: The FEMP is developing a preventative maintenance procedure for HPGe and RTRAK in-situ gamma spectrometry systems.
6. Develop and issue the following procedures: "Operation of the Radiation Scanning System," EQT-34 and "Operation of the Global Positioning System," EQT-GP.
7. Training: Develop, perform, and document the following training for all individuals needed to perform in-situ gamma spectrometry:
 - Training on the objectives and limitations, as detailed in the ~~real-time radiological field screening usability report~~ (which is currently under development).
 - Training on QA/QC plans and procedures and training on all operating procedures for in-situ gamma spectrometry.
 - Training on the use and maintenance of gamma spectroscopy software.

24. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: #: 4.1 Pg #: 4-4 Line #: Code: C
Original Comment #: 24

Comment: The document should include a discussion of how DOE will ensure the contractor meets the excavation requirements for above WAC material as laid out in the IRDP. Included should be discussions of contract language, field oversight and the role of the WAO.

Response: The excavation contract will address requirements for the successful contractor to execute work in accordance with the excavation details delineated in the IRDP. Compliance with these requirements will be monitored by the Soil Characterization and Excavation Project's (SCEP's) field representatives. WAO will maintain independent full-time oversight of these field activities to ensure that the design-based excavation objectives are achieved. DOE believes the actual contract language used to procure the contractor is beyond the scope of the WAC Attainment Plan. However, DOE recognizes that the binding requirements for excavation are contained in the WAC Attainment Plan, the SEP, and the individual area-specific IRDPs; all excavation contract RFPs and contracts must contain appropriate vehicles to ensure the contractor delivers the product that meets these binding requirements. The FEMP recognizes and will maintain its responsibility to procure and direct the contractor where necessary to achieve the desired product.

Action: ~~No document revisions necessary. The FEMP will continue to discuss contractor procurement and performance issues with EPA and OEPA during the ongoing planning and design preparations for soil excavation. Previous discussions with the agencies have been helpful in the planning for contractor interfaces and expectations for the Southern Waste Units. It is anticipated that the Southern Waste Units program, once completed and evaluated from a "lessons learned" perspective, will serve as the template for future remediation areas as appropriate.~~

25. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: #: 4.2.1.2 Pg #: 4-11 Line #: 27-33 Code: C
Original Comment #: 25

Comment: Ohio EPA believes that both tetrachloroethene and vinyl chloride should be retained as WAC COCs. Due to the prevalent nature of VOCs in the production area, the fact the maximum detects are relatively close to the WAC (see Table 4-1) and that probable locations (beneath buildings) with the highest concentrations of these contaminants have not been sampled these constituents must be retained. Finally the contaminants can be added to the sampling regime with little additional cost or effort as they are reported as part of a typical VOC sampling effort.

Response: As discussed with EPA and Ohio EPA, DOE will remove the language in the document that requests approval of the proposed area-specific WAC COC lists as part of the plan. The general concept of the use of area-specific WAC COCs in the WAC attainment process will remain in the document, but the actual data review and selection of the individual COCs will be deferred to the subordinate detailed design documents (e.g., the PSPs and/or IRDPs as appropriate) for each area. DOE recognizes that the PSPs are not being approved by the agencies, and the IRDP is the binding document. DOE is therefore at risk at the PSP stage in proposing area-specific WAC COCs. As discussed at the November 5, 1997 meeting, DOE will work to alleviate this risk by sharing with the agencies as early as possible in the process the database used to develop the proposed area-specific WAC COCs, so that all parties are familiar with the information used to derive the lists. This commitment will generally result in the need for a meeting during the PSP development step to share the database with the agencies.

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If possible, tentative agreement can be reached at this step that the database is adequate and complete for deriving the lists, and known flaws can be identified early. This step would help alleviate deferring the identification of key database flaws to the IRDP step. The IRDP stage can then be used to finalize the initial agreements officially via a formal approval process.

Action: As requested, in Section 4.2.1.2, remove WAC COC selection language, support tables, and figures. Replace with a conceptual discussion of the process of area-specific COC selection and approval. Identify where in the process the actual WAC COCs will be proposed for consideration (i.e. as part of the preparation of the PSPs, wherever possible) based on a thorough review and presentation of existing data. Identify that the process for final approval of the WAC COCs is at the IRDP step.

26. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: #: Table 4-1 Pg #: 4-12 Line #: Code: M
Original Comment #: 26

Comment: The database used to create this table does not appear to be sufficiently inclusive of data from site activities. In a brief review of available data Ohio EPA noted that the maximum detect for 1,2-dichloroethene was 1.2 mg/kg from a sample collected at location 1411 at 10-10.5' as reported in the Pilot Plant Sump Removal Action WP in Table 4-8. Ohio EPA does not concur with the elimination of any WAC COCs until such time as a comprehensive review of site data is conducted and evaluated.

Additionally, a review of the data provided in the Removal Action WP shows that the detection limit for 4-nitroaniline exceeded the WAC in nearly every sample collected. The table should be revised to reflect the number of non-detects that exceed the WAC for all contaminants.

Response: See response to Comment No. 25. The process for selecting and approving the lists of area-specific COCs will take place in follow-up design documents (PSPs and/or IRDPs), and will not be part of the WAC Attainment Plan. The tables, figures, and text that resulted in Ohio EPA's comments will be removed.

Action: See action to Comment No. 25.

27. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.1.2 & Figure 4-6 Pg #: 4-13 Line #: 1-21 Code: M
Original Comment #: 27

Comment: As stated in the previous comment, Ohio EPA has significant concerns regarding the database used to develop these tables and figures upon which conclusions regard WAC COCs are drawn. Ohio EPA does not concur with the limitation of area specific COCs and believes that a review of available data, including non-detects exceeding the WAC is necessary to properly determine appropriate area specific WACs.

Response: See response to Comment No. 25.

Action: See action to Comment No. 25.

28. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Figure 4-6 Pg #: Line #: Code: M
Original Comment #: 28

Comment: The figure fails to detail areas of known total uranium WAC exceedances in the Southern Waste Units and the Solid Waste Landfill. The lack of accuracy regarding total uranium WAC exceedances leaves little confidence that other COCs have been accurately portrayed. Revise the Figure to make the symbols distinguishable from each other. The caption should also be revised.

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Response: See Response to Comment No. 25. The figure resulting in the comment will be removed, since the actual area-specific COC lists are not now being proposed for approval as part of this plan. The selection process and supporting documentation will now be furnished as part of the followup design documents (PSPs and/or IRDPs) as requested by Ohio EPA.

Action: See action to Comment No. 25.

29. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 4-3 Pg #: 4-17 Line #: Code: M
Original Comment #: 29

Comment: A review of the Pilot Plant Sump Final Report shows that soil samples analyzed for TCLP failed for PCE. Based upon the failure to include this data in the table, DOE should conduct an additional data review for all the areas presented in this table and revise as appropriate.

Response: ~~The column identifying the potentially hazardous constituent will be deleted. This determination will be made during the development of the PSPs for each remediation area. As noted in Comment No. 7, a footnote will be added to the South Field Firing Range to identify that any RCRA characteristic material from that area will be sent off site for disposal in accordance with the Operable Unit 2 ROD.~~

Action: Revise Table 4-3 as stated. (Note: ~~Table 4-3 has been renumbered Table 4-1.~~)

30. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.1.2.1 Pg #: 4-18 Line #: 9-16 Code: M
Original Comment #: 30

Comment: This paragraph again suggests credibility problems with the data set used to make these determinations. Additional specific details regarding changes to the data base and how those changes relate to WAC evaluation needs to be included.

Response: See response to Comment No. 25.

Action: See action to Comment No. 25.

31. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.1.2.2 Pg #: 4-20 Line #: Code: M
Original Comment #: 31

Comment: This section appears to contradict the OU5 ROD commitment to apply VOC screening during all excavation activities. The ROD states, "A best management approach will also be applied during all excavation activities to identify, segregate (and treat as necessary) soil containing concentrations of organic compounds...(emphasis added)." In order to be consistent with the OU5 ROD VOC screening should be incorporated into all excavation activities.

Response: The Operable Unit 5 ROD committed DOE to a best management approach that would identify, segregate, and treat (as necessary) soil containing concentrations of organic compounds at levels that potentially could jeopardize the integrity of the earthen liners of the OSDF. The OU5 ROD did not specify the levels of organic compounds that would be of potential concern. Consultation with OSDF project personnel indicate that a significant volume of soil essentially saturated with volatile organics would be required to introduce a potential threat to the OSDF liners. DOE plans to conduct organic vapor screening at all of the FEMP's soil remediation sites for worker health and safety purposes throughout the excavation process. This vapor screening activity is expected to be adequate for the qualitative "presence/absence" determinations needed to segregate significant quantities of excavated soils that may essentially be saturated with organic solvents. As this screening of the remediation sites for organic vapors for

health and safety purposes will be performed at all locations of excavation, the ROD commitment for continuous organic vapor screening during all excavation activities can be fulfilled. The WAC Attainment Plan will be revised to delete all reference to the restriction that the organic vapor screening will only be performed at the locations of the HWMU excavations. Additional detail will be provided in the SEP to discuss the specifics of the soil segregation and treatment process, should significant quantities of solvent-saturated soils be encountered. An action plan containing the affected-material field delineation and handling steps (including follow-up characterization activities, as necessary) if organic vapors are encountered at an excavation site will be provided in the SEP. It should be noted that significant quantities of solvent-saturated soils should only rarely be encountered at the FEMP, if at all.

Action: ~~The following text was added to Section 4.2.1.2.2~~, "Also, the screening of the excavation sites for organic vapors in conjunction with health and safety monitoring will be performed at all locations of excavation. This screening will be used to identify and segregate additional soil for treatment, thus fulfilling the ~~Operable Unit 5~~ ROD commitment for continuous organic vapor screening during all excavation activities." The following sentence will be added to ~~Section 4.2.1.2.2~~, "The health and safety screening using hand-held organic vapor analyzers that will be performed at all excavation locations will provide the information to implement this best management approach." ~~Table 4.4 and the second paragraph of Section 4.2.1.2.2 will be deleted.~~ A reference will also be added that the SEP will provide the details of the soil delineation, segregation, and treatment processes should significant solvent-saturated soils be indicated through the organic vapor monitoring.

32. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.1.2.2 Pg #: 4-20 Line #: Code: C
Original Comment #: 32
Comment: This section presents an argument apparently the opposite of that used by DOE in negotiations with Ohio regarding listed waste constituents within the production area. At the time of those negotiations DOE argued that VOC contamination in the production area was ubiquitous in the groundwater and that contamination from individual HWMUs could not be distinguished from contaminants released from areas other than HWMUs. Ohio EPA finds this change in position by DOE concerning with regard to its implications to RCRA compliance. Additional discussion of this topic is warranted.
Response: As discussed in Comment No. 31, the organic vapor screening activity will no longer be limited to just the HWMU area footprints, as originally proposed in the plan. DOE will now be performing the organic vapor surveys at all locations of soil excavation, as described in Comment No. 31.
Action: See action to Comment No. 31.
33. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.1.3 Pg #: 4-22 Line #: 15 Code: C
Original Comment #: 33
Comment: This is a risky strategy on the part of DOE. It is worth re-iterating that Ohio EPA reserves the right to 'second guess' the strategies used in developing a PSP and requesting that additional data be collected before approving an IRDP.
Response: Comment acknowledged. As discussed in recent meetings, the DOE intends to informally submit draft PSPs 30 days in advance of initiating sampling activities.
Action: Affirm DOE's intention to submit the draft PSPs 30 days in advance of initiating sampling activities.

34. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 4.2.1.3 Pg #: 4-23 Line #: 32 Code: C
 Original Comment #: 34
 Comment: If the reference to "(for characteristic beta radiation)" is meant to suggest Tc-99 sampling will be conducted by screening for total beta radiation, Ohio EPA does not find this to be an acceptable method for delineating Tc-99 contamination. Delineation of Tc-99 contamination should only be completed through specific analysis for this radionuclide.
 Response: Agreed. The text is actually referring to the analytical procedure which will be followed in the laboratory. The analytical procedure calls for initially performing a chemical separation of technetium-99 and concentration step, which is followed by either alpha/beta proportional counter analysis or characteristic beta analysis through liquid scintillation spectrometry.
 Action: Clarify text in Section 4.2.1.3 to eliminate confusing wording noted by the Commentor.
35. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 4.2.1.4 Pg #: 4-24 Line #: 27-31 Code: C
 Original Comment #: 35
 Comment: If previous experiences are relevant, it is likely that a response to comment document will not be sufficient for Ohio EPA to approve the initiation of field work. Therefore, Ohio EPA recommends DOE incorporate a re-submittal of the revised IRDP for approval prior initiation of field work. This scheduling will reduce the likelihood of DOE continuing its current practice of initiating work at risk and without agency approval.
 Response: Comment acknowledged. As a general practice, DOE does not intend to initiate IRDP-based field work unless either conditional or final EPA and Ohio EPA approval is obtained. The submittal of draft IRDPs are generally scheduled such that enough time will be available to submit a revised document for review and approval prior to the need to initiate excavation activities. It needs to be recognized, however, that DOE may, depending on select circumstances, request a conditional approval from the EPA for an IRDP based on EPA review of detailed comment responses and/or change pages/revised drawings.
 Action: Revise text in Section 4.2.1.4 to better describe DOE's intentions for document approval, and the circumstances leading to a need for conditional approvals ahead of full approval of the IRDP.
36. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 4.2.2.2.3 Pg #: 4-27 & 28 Line #: Code: C
 Original Comment #: 36
 Comment: Ohio EPA disagrees with DOE's assertion that process waste encountered during remediation of waste disposal areas could be considered nuclear materials requiring solicitation for sale. All materials removed from waste disposal areas during remediation are a waste and should be dispositioned as such. By disposal of these process residues in a waste disposal area, DOE has declared them a waste and thus they must be managed and disposed of as a waste not a nuclear material. The document should be revised to state the process residues will be managed and disposed of as waste.
 Response: Agreed. The paragraph will be revised to read, "Uranium metal in various forms (e.g., ingots, end crops, cuttings) may be encountered during excavation activities. These metals will be segregated and managed as waste in accordance with the FEMP

Waste Disposition Program." All references to the sale of nuclear materials will be deleted.

Action: The text will be revised as stated in the response.

37. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.2.3.1 Pg #: 4-28 Line #: Code: C
Original Comment #: 37

Comment: The text should state when unanticipated debris is removed the soils surrounding the debris will be re-evaluated for WAC attainment. This is necessary since if the debris was unanticipated then the characterization of the area failed to anticipate it and any associated contamination.

Response: Upon excavation of either anticipated or unanticipated debris, the items will be scanned using real-time analytical techniques and hand-held organic vapor detectors to assess health and safety concerns prior to handling or removal. After the items have been removed, associated soils will be scanned with real-time radiological techniques and hand-held organic vapor detectors for OSDF WAC determination. The debris that does not meet WAC will be sent off-site, and will be stored separately in a dedicated, managed area adjacent to the above-WAC soil pile until such time that it is sent off-site for disposal. Readers should also see Comment No. 12, which discusses issues concerning the application of OU3 WAC to debris from the other operable units.

Action: Section 4.2.2.3.1 will be revised to identify the approach for handling unanticipated debris and the need to re-evaluate the surrounding soil for WAC attainment.

38. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.2.3.2 Pg #: 4-28 Line #: Code: C
Original Comment #: 38

Comment: The text should state when unanticipated process residue is removed the soils surrounding the residue will be re-evaluated for WAC attainment. This is necessary since if the residue was unanticipated then the characterization of the area failed to anticipate it and any associated contamination.

Response: Agreed. Similar to the procedures for handling unanticipated debris, as process residue is encountered, whether anticipated or unanticipated, real-time instrumentation will be used to preferentially excavate and segregate the materials in question from materials destined for OSDF disposal. Readers should also see Comment No. 12, which discusses issues concerning the application of OU3 WAC to debris from the other operable units.

Action: The following sentence will be added to the end of Section 4.2.2.3.2, "If these types of materials are removed from what was considered to be a below-WAC area, real-time analytical screening techniques will then be utilized to fully screen the resulting excavated area for the presence of any remaining above-WAC materials."

39. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.3.1.1 Pg #: 4-32 Line #: Code: C
Original Comment #: 39

Comment: This document should designate the location for the above WAC storage pile or reference a specific document which will provide a location and design for the pile. Obviously strict controls will be needed for such a pile. Additionally, any RCRA characteristic wastes must be stored in compliance with RCRA storage requirements. The document should specify this requirement.

Response: Agreed. This comment is related to Comment No. 40 concerning overall pile management. Please see response to Comment No.40. A statement will be added that

the RCRA characteristic soils that are delineated within the six designated areas will be stored in compliance with applicable RCRA storage requirements. Current plans call for containerizing these soils at the time they are excavated and ultimately delivering them for treatment, based on anticipated volumes. The IRDPs will delineate the actual approach(es) for RCRA-compliant storage in a given area (including storage in piles, where necessary) based on the actual volumes determined through the planned pre-excavation characterization step.

Action: See Comment No. 40, and add statement identified in the response above to Section 4.2.3.1.1.

40. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 4.2.3.2 Pg #: 4-33 Line #: Code:
 Original Comment #: 40

Comment: The tracking of soils into and out of stockpiles has been a major concern of Ohio EPA. Poor documentation of the movement and analytical status of soils into the West Impacted Stockpile has already had serious and potentially expensive implications for the use of this pile as winter cover for the end of this construction season. (As recently as last Thursday Ohio EPA observed soils with no analytical data being placed if not on then adjacent to and physically touching this stockpile.) There are similar problems with maintaining the various Removal Action 17 stockpiles. Ohio EPA expects the revised document to include detailed method for delineating stockpiles as above WAC, below WAC, below FRL, or uncharacterized. The method currently employed by DOE does not work in application. The revised document should clarify a responsible group for managing piles and ensuring pile integrity is maintained. In addition, the document should define how the WAO will oversee the stockpile program. Ohio EPA recommends DOE immediately develop and implement a strict, easily understood and managed procedure which includes accountability for pile managers and any contractor working near the pile.

Response: For the past year, the SCEP project has been developing a comprehensive material inventory and tracking system for bulk materials. While organizational adjustments related to the development and eventual execution of the WAC Attainment, Sitewide Excavation, and Impacted Materials Placement Plans have necessitated an ongoing revision to this system, we believe the basic administrative process it portrays for inventorying and tracking waste material is a sound one. The basic elements of the material inventory and tracking system are as follows:

All remediation, construction, and maintenance projects are required to generate a project waste identification and ~~disposition form~~ (PWID) as part of their projects initiation. PWID development includes a review of the Sitewide Environmental Database and a determination of the character or profile of the waste materials to be encountered. The information gathered into the PWID is then used by SCEP personnel to identify an appropriate stockpile location for any excess soils generated by the project. These stockpiles (every "source" and "destination") are assigned unique Material Tracking Location (MTL) numbers. PWIDs are reviewed and approved by the SCEP Project Manager.

The actual movement of waste material is preceded by the preparation of a Field Tracking Log/~~On-Site Manifest~~ (FTL/~~OSM~~) which identifies the source and destination MTL as well as the volume of material moved. These FTL/~~OSMs~~ are completed by SCEP field representatives who monitor ongoing work activities.

Information from the PWID, the MTL locations, and the FTL/OSM are all recorded into an electronic database (the Integrated Information Management System, or IIMS) which ties the SED data to the stockpile placement. IIMS reports can list the volume in each stockpile, the source of the material in a stockpile, and the SED data associated with the material in the stockpile. Other reports can also track where excavated soils were staged during project activities.

While we are confident that the material inventory and tracking process is effective, we do acknowledge weaknesses in its application. One significant weakness has been administrative controls to ensure routine application of the PWID to projects not directly associated with soils remediation projects. This weakness will be addressed by linking generation of a PWID to the issuance of the FEMP's well-recognized internal penetration permit. This will extend control to the occasional maintenance-type actions that occur outside of the soil remediation project. At a site of this complexity and size, the FEMP recognizes that often the most effective control is to extend an existing program into the new area desired, rather than creating something new that is not easily publicized.

A second weakness has been inconsistent application of engineering controls (such as colored placards, security fencing, gates). This will be addressed in several ways. Procedures being developed, and the corresponding organizational interfaces being established, will recognize a distinction between a designated stockpile for the temporary storage or staging of materials intended for transfer to a designated final placement facility (such as the OSDF, or an off-site facility) and the working stockpiles necessary for a project to execute work activities. Stockpiles for off-site transportation, or OSDF placement, will be controlled by the installation of perimeter fencing and controlled ingress and egress. Project working stockpiles which have had a formal dispositioning pathway (i.e., OSDF; off site; or clean backfill) assigned to them will be fenced (construction fencing) and posted if they will remain in place for more than 45 days. Controlled stockpiles will be demarcated by postings, which will identify the MTL number, status of soil (e.g., above-WAC, below-WAC, etc.), and the stockpile manager. Crusting agent, seeding, or other types of cover will also be used for all piles with a life extending beyond 45 days. The decision to apply fencing and cover will be triggered as soon as project personnel have determined the need for these time frames; it should not be construed that these time frames have to elapse before the decision is made.

The waste generator projects will have responsibility for waste material identification, segregation, handling, and inventory control and management. WAO will perform full-time oversight of project activities to monitor the integrity and accountability of these functions. Necessary for WAO acceptance of any waste material for placement in the OSDF will be the demonstration of traceability to the materials' point of site origin.

Action: Revise Section 4.2.3.2 to address items noted in the response.

41. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.3.1 Pg #: 4-39 Line #: 3-4 Code: C
Original Comment #: 41
Comment: Ohio EPA does not believe the current method of PSP development and implementation is acceptable. This document should include a commitment to provide PSPs to the EPA 30 days prior to the initiation of any field work. Without such a commitment, Ohio EPA expects that IRDPs will be disapproved due to a lack of agreement on the appropriate amount and type of data needed for WAC delineation.

Response: Agreed. Similar to the discussion provided in Comment No. 33, the DOE intends to informally submit draft PSPs 30 days in advance of initiating sampling activities in order to give EPA, hopefully, sufficient time to review the draft PSP and offer comments or concerns relative to the area-specific characterization effort to design the most appropriate excavation strategy.

Action: See Comment No. 35.

42. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4-42 Pg #: 4-42 Line #: Code: C
Original Comment #: 42

Comment: Ohio EPA does not believe that sufficient information currently exists to delineate all above WAC areas on this or subsequent figures. We expect that each IRDP will present the proposed WAC delineation and appropriate data justification.

Response: DOE will clearly note on the figures and in the accompanying text where they are referenced that these figures represent the anticipated areas of excavation and are included for information purposes only. The text will further note that each IRDP will present the proposed WAC excavation delineations and appropriate justification.

Action: ~~The first time Figure 4-9 is referenced (Section 4.3.1), the following text was inserted: "Note: Figures 4-9 through 4-14, which represented anticipated excavation areas for each of the excavation approaches are included for information purposes only. Each IRDP will formally propose the estimated excavation areas along with the appropriate justification."~~ Add language in the text at each appropriate figure citation that identifies that ~~the figures are presented for information.~~ The figures will each be clearly denoted as "for information purposes only."

43. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.3.4 Pg #: 4-44 Line #: Code: C
Original Comment #: 43

Comment: The section discusses soils currently in piles but fails to address soils containerized under RA17. Will these soils be managed as legacy waste and disposed off-site? If not, a sampling approach for each container must be developed and presented in this plan.

Response: DOE agrees that containerized soil must be properly characterized prior to disposition to the OSDF. Containerized soil at the FEMP originates from two sources. The first is investigation-derived waste (IDW), comprising approximately 3100 containers. One hundred and fifty of these containers are known to have originated from within the six potential RCRA characteristic areas designated in the Operable Unit 5 ROD. Another 150 containers of IDW soil are of unknown origin. These 300 containers were sampled for TCLP following EPA SW-846 percentile ~~sampling methods to ensure compliance with Removal Action 17 Work Plan restrictions on bulk storage of RCRA soil.~~ Following confirmation that the soil is non-RCRA, the containers are emptied into existing Soil Stockpile 1. ~~Any containerized soil that exhibits RCRA characteristic is sent off site.~~ The remainder of the IDW containers (approximately 2800) have been emptied into Soil Stockpile 1 in accordance with the requirements of Removal Action No. 17. ~~Soil Stockpile 1 itself will be evaluated for on-site disposal in accordance with Excavation Approach C (and its attendant pre-excavation characterization step).~~

The second group consists of containerized soils historically generated as a result of maintenance and construction activities. Available characterization information is reviewed to determine sampling requirements and eligibility of this material for OSDF placement. ~~TCLP analyses are then conducted for the eligible containers in accordance with EPA SW-846 percentile sampling methods for RCRA toxicity characteristics, and~~

Action: Add language in Section 4.3.3 to clarify that the full list of numerical WAC COCs will be utilized for existing stockpiles, where the origin history for the stockpile does not support use of a defensible shortlist. Where a short listing process can be utilized, it will follow the multi-phase approach discussed with EPA and Ohio EPA to "hone in" on an acceptable shortlist to be used for further sampling. A discussion of this process will be added to the document. The actual shortlistings, should they be utilized, will be provided and justified in the followup PSPs and second-step implementation documents submitted to the agencies.

45. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 4.3.3 Pg #: 4-45 Line #: 19-20 Code: C
 Original Comment #: 45

Comment: Ohio EPA has significant concerns with the characterization of the western stockpile. Above WAC materials are known to have been placed in and later removed from the pile. Currently materials are being added to the pile from uncharacterized areas in A1P2. Ohio EPA expects a PSP to be developed for appropriate characterization of the pile then for the agencies to review and approve that PSP. PSP review and approval for the pile is necessary as no IRDP will be developed for removal of the pile.

Response: Agreed. A revision to the WAC Attainment PSP for the western stockpile is currently under development in order to also include sampling to characterize the more recently disturbed areas of the pile which potentially may have had uncharacterized soil introduced in addition to the rest of the pile. Once the PSP-driven characterization activity is complete, the FEMP will submit the second-step implementation document that was described in Comment No. 44.

Action: The PSP for sampling the Area 1 Phase I West Impacted Soil Stockpile will be submitted for agency review, and following completion of the characterization effort a second-step implementation document will be submitted as described in Comment No. 44.

46. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: Figure 4-12 Pg #: 4-46 Line #: Code: C
 Original Comment #: 46

Comment: The figure presents an additional argument for implement a strict control policy for pile generation. An additional pile not included in the figure has been generated in the east field near the STP as a result of installation of the new north access road. This pile was generated with uncharacterized soils. The figure also fails to include the numerous smaller piles of soil within the production area. These piles should be included in a revision of the figure. The figure should designate the names for each pile.

Response: The FEMP apologizes for any confusion created by the inclusion of Figure 4-12 in the WAC Attainment Plan concerning the presence of stockpiles. This figure was included so as to provide a visual representation of the areas to which Excavation Approach C was to be applied. It was not included to be viewed as a controlled representation of current designated storage/staging or intra-project working stockpiles, and was intentionally stamped "DRAFT" to denote this status.

Relative to the future controlled depiction of site designated stockpiles, the above-WAC and below-WAC material transfer stations will be clearly and accurately portrayed on controlled site drawings (the former is currently designated on controlled drawings as SP-6). In addition, temporary storage areas for materials requiring treatment, and the treatment-related areas (sizing, special materials processing, material segregating) will be delineated.

Intra-project working stockpiles will be controlled with the same administrative controls applied to the designated stockpiles. However these piles, because of their transient nature (transient because they move as a project's immediate work area moves) will not be depicted on controlled drawings. Rather, the project will maintain working drawings of the approximate locations and the actual areas will be clearly demarcated through field markings (flags) and placards.

Action: Revise Figure 4-12 to more clearly denote that it is for information purposes only. See also Comment No. 42.

47. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.4 Pg #: Line #: Code: M
Original Comment #: 47

Comment: Ohio EPA does not understand the basis for inclusion of this section in the document as no other deliverable has included such a section. Ohio EPA disagrees with any assertion the section may be making regarding limitations of Ohio EPA's oversight role. Ohio EPA will continue to exercise it's oversight in the manner it deems necessary to ensure compliance with ARARs and approved deliverables. In no way will Ohio EPA approval of this document include approval of this section. Ohio EPA will specifically exclude approval from this section. Ohio EPA maintains it may be necessary and appropriate to collect independent samples for WAC attainment at any point in the delineation, excavation, or disposal process.

Response: Agreed. The intent of this section was to facilitate planning and coordination of EPA and Ohio EPA's field oversight at the various phases of the project. It was not intended in any way to limit agency oversight. DOE recognizes EPA and Ohio EPA's right to implement oversight as appropriate, including the possibility that samples will be collected during or post excavation. Because the collection of samples by agency personnel will affect the flow of contractor operations, DOE believes it is important to work with the regulators to achieve agreement as to how such activities will be routinely implemented. The next version of the WAC Attainment Plan will include a discussion of how the FEMP will plan for the different basic scenarios that could result should EPA or Ohio EPA decide to collect independent samples for WAC attainment verification. Follow-up discussions with the agencies are probably necessary to make sure all parties understand the protocols and resulting actions needed should any agency sampling results conflict with the WAC attainment determinations made via the FEMP's real-time and/or physical sampling and analysis results.

As discussed with Ohio EPA and incorporated into other comments, DOE will be utilizing real-time analytical techniques as a major element of the WAC attainment demonstration process. Through the use of real-time analytical techniques during field excavation for the WAC attainment process, the text in this subsection that denotes the pre-excavation characterization step as the sole driving mechanism for determining WAC exceedance areas will be removed.

Action: Add additional language to Section 4.4. to reflect above modifications. ~~Text will be added to Section 4.4.3.2 to~~ discuss the scenarios and expected actions to address the results of independent agency sampling during the WAC attainment demonstration process.

48. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.4.2.2 Pg #: 4-61 Line #: 22-24 Code: M
Original Comment #: 48

Comment: Obviously, Ohio EPA does not concur with the suggestion that samples can not be collected after excavation has been initiated. Indeed, it is likely that Ohio EPA will

collect samples at this or latter points in the process. In addition, it is probable that DOE and/or the WAO will need to collect samples after initiation of excavation in order to confirm WAC attainment, to investigate possible hot spots, etc.. Ohio EPA believes it is short sighted of DOE to rule out sampling after the initiation of excavation and will not concur with such an approach.

Response: Agreed. OEPA is obviously free to take samples anytime during the soil excavation process to confirm WAC attainment. DOE's concern is not with sampling but with (1) how physical samples can be efficiently collected and coordinated with the subcontractor's efforts to excavate soils and (2) how the results from any WAC attainment sampling (pre or post-excavation) are to be handled.

Also, as discussed with Ohio EPA and incorporated into other comments, DOE will be utilizing real-time analytical techniques as a major element of the WAC attainment demonstration process. Again, through the use of real-time analytical techniques during field excavation for WAC attainment, the text in this subsection that denotes the pre-excavation characterization step as the sole driving mechanism for determining WAC exceedance areas will be ~~removed~~.

Action: ~~The following language was added to Section 4.4.2.2 to reflect above modifications. "In certain circumstances, additional sampling and laboratory analytical data will also be procured during (or subsequent to) the above WAC excavation activity, and such events will be relayed to the agencies through the monthly remediation schedules in the event split sampling is desired." See also response to Comment No. 47.~~

49. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.4.3.2 Pg #: 4-62 Line #: 26-28 Code: M
Original Comment #: 49

Comment: Obviously, Ohio EPA does not concur with the suggestion that samples can not be collected after excavation has been completed. Indeed, it is likely that Ohio EPA will collect samples at this or later points in the process. In addition, it is probable that DOE and/or the WAO will need to collect samples after initiation of excavation in order to confirm WAC attainment, to investigate possible hot spots, assess contractor compliance, evaluate transport success, etc. Ohio EPA believes it is short sighted of DOE to rule out sampling after the completion of excavation and will not concur with such an approach.

Response: See response to Comment No. 48, which raises similar concerns.

Action: See action to Comment No. 48.

50. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.0 Pg #: Line #: Code: C
Original Comment #: 50

Comment: The section should include a reference to the prohibition against disposal of tires in the OSDF.

Response: Agreed. A reference to the prohibition against the disposal of tires in the OSDF will be added to Section 5.1.2.1. Please note that the prohibition was provided in Section 3.1, where the OSDF's excluded items list is summarized.

Action: The following sentence has been added after item #4 in Section 5.1.2.1, "In addition, items containing free liquids, whole or shredded scrap tires, and used oils are prohibited from disposal."

51. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: Table 5-1 Pg #: Line #: Code: C
 Original Comment #: 51
 Comment: Delete reference to oversized debris under Category A as discussed in previous comments.
 Response: See response to Comment No. 18.
 Action: See action to Comment No. 18.
52. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 5.1.2.3 Pg #: 5-8 Line #: 8-11 Code: C
 Original Comment #: 52
 Comment: Delete reference to oversized debris as discussed in previous comments.
 Response: See response to Comment No. 18.
 Action: See action to Comment No. 18.
53. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: Table 5-2 Pg #: Line #: Code: C
 Original Comment #: 53
 Comment: As discussed in previous comments, delete reference to oversized debris in the footnote.
 Response: See response to Comment No. 18.
 Action: See action to Comment No. 18.
54. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 6.1.1 Pg #: 6-2 Line #: Code: C
 Original Comment #: 54
 Comment: a) This section fails to include in its analysis an evaluation of constituents to be sent to the AWWT as a result of treatment operations in other OUs. If current sludges regularly fail the WAC, then it is likely that future sludges will be even more likely to fail with increased waste handling and processing. The section should be revised to include a discussion and estimates regarding increased contaminant loading to the AWWT from the various remedial projects on the site.
 b) The section uses calculations performed for one volatile organic to draw conclusions regarding all organics. A discussion of relative vapor pressure for various WAC COCs and the impact of those on the calculations previously completed needs to be included. In addition, it is unclear how this calculation is relevant to semi-volatile organics.
 c) The section needs to provide a discussion of the volume of each container, fill rate of the container, and the basis for collecting a single sample to represent the entire volume.
 d) Have the sludges been sampled for TCLP? If so, such data should be presented. If not, additional data regarding this is required.
 e) As new waste streams will continually be added to the AWWT by remediation in various areas it will not be acceptable to base future performance on historical data (e.g., Tc-99 sampling can not be ended simply because a period of time has passed with no detections).
 Response: As discussed at the November 5, 1997 meeting, the WAC attainment compliance process for the AWWT residuals will be provided at a later date once additional

definitive process knowledge and a characterization data base is obtained. It was agreed that the knowledge base is not sufficient at this point to allow for definitive constituent short-listing. A specific proposal for WAC attainment demonstration for the AWWT residuals will be provided for agency review and approval before the residuals are dispositioned to the OSDF. (The timing of the proposal will be set once the future necessary date for dispositioning AWWT residuals at the OSDF is firmly established.) As agreed at the meeting, the FEMP will allow sufficient lead time for agency review ahead of the target dispositioning date. In the meantime, all current residuals are planned to be sent off-site for disposal. The earliest likely date for needing on-site disposal capacity for the residuals is probably FY 1999.

Action: Revise Section 6.1.1 to describe the path forward noted in the response.

55. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 6.1.2 Pg #: 6-3 Line #: Code: C
 Original Comment #: 55

Comment: a) Since these resins retain and concentrate contaminants, TCLP data for these materials will be necessary to ensure they are not characteristic hazardous wastes.

b) Additional data should be provided to support the suggestion that concentrations within the resin or carbon will be homogenous. The information provided is insufficient to support the conclusion that a single sample is sufficient for each batch.

Response: At the time of the signing of the RODs for Operable Units 5 and 3, a thorough review was conducted to identify those FEMP soil and debris streams that contained RCRA characteristic constituents that also offered a reasonable opportunity to apply a cost-effective level of treatment to further satisfy the preference for remedies that employ treatment as a principal element. The AWWT resins were included in this review, and it was concluded these materials were not of sufficient volume to offer a reasonable treatment opportunity. Thus they were not included in the list of agreed-to characteristic waste streams that require further treatment prior to placement in the OSDF. The resins will require evaluation for WAC attainment, but TCLP tests are not necessary for on-site disposal in accordance with the RODS. As noted under Comment No. 54, additional requested information and clarification will be provided on the process for demonstrating WAC attainment for the AWWT residuals, including the resins, and the deferral of the selection of individual WAC COCs to follow-up documents.

Action: See Comment No. 54.

56. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 6.2 Pg #: 6-3 & 4 Line #: Code: C
 Original Comment #: 56

Comment: This section as written provides sufficient WAC attainment strategy for geotechnical samples returns alone. Any other type of sample returns will require a revision or addendum to the WAC Attainment Plan and undergo review and approval by the EPAs.

Response: Agreed. The text will be clarified. (See also response to Comment No. 21.)

Action: The last sentence of Section 6.2 has been revised to read, "If at some time in the future the laboratory contract policy is changed and additional analytical sample residues are being returned to the FEMP, these sample returns would be considered an additional ancillary waste stream and a WAC attainment strategy would be developed at that time and documented in an addendum to this plan." (See also Comment No. 21).

Original Comment #: 57

Comment: As PPE was not specifically addressed by the OU3 FS/ROD, it would be useful to provide an estimated volume of PPE to be generated over the course of the remediation.

Response: As shown on Table 4-2 of the OU3 Record of Decision for Final Remedial Action (Final, August 1996), PPE is categorized under Miscellaneous Materials (OU3 Category I), unless the PPE was associated with the removal of asbestos, in which case it is categorized as Regulated ACM (OU3 Category H). Table 3-2 of the OU3 Remedial Investigation and Feasibility Study Report (Final, February 1996) lists the estimated quantities of PPE to be generated during the decontamination and dismantlement of site structures; these estimates are 6,860 unbulked cubic feet (10.4 tons) of Category H PPE and 36,000 unbulked cubic feet (54.5 tons) of Category I PPE. These estimates were included in the OU3 source term for use in risk calculations, cost estimates, and other facets of the OU3 FS and ROD.

As discussed in Section 6.3 of the OSDF WAC Attainment Plan, PPE generated by non-OU3 remediation projects at the FEMP will be dispositioned in the OSDF in a manner consistent with debris handling and disposition strategies discussed in Section 5 of the OSDF WAC Attainment Plan. Based on remedial design planning performed to date, the following table lists estimated quantities for each major remediation project or functional activity:

ESTIMATES OF PPE TO BE DISPOSITIONED TO THE OSDF

Remediation Project	Unbulked Volume (cubic feet)	Weight (tons)
OU1	off-site disposal only	off-site disposal only
OU2	5,400	8.2
OU3 Safe Shutdown	290	0.5
OU3 D&D	42,900	65
OU4	Not Yet Defined	Not Yet Defined
OU5 Aquifer Restoration	960	1.5
OU5 Soils Remediation	47,700	72
Low- Level Legacy Wastes	27,000	41
Mixed Legacy Wastes	2,200	3.4
Total	126,500	192

Action: Provide a summary of this PPE quantity in Section 6.3 of the WAC Attainment Plan.

58. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 6.4 Pg #: Line #: Code: C
 Original Comment #: 58
 Comment: Any development of WAC attainment strategies for future ancillary waste streams must be documented as revisions or addendums to the WAC Attainment Plan and undergo review and approval by the EPAs.
 Response: See response to Comment No. 21.
 Action: See action to Comment No. 21.
59. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 7.0 Pg #: 7-1 Line #: 7 Code: M
 Original Comment #: 59
 Comment: The phrase "...regardless of the organization structure ultimately established..." contradicts Section 7.2 which specifically lays out the responsibilities of the Waste Acceptance Organization (WAO). Because the successful implementation of a complicated Plan such as this is directly related to the organizational structure and responsibilities, Ohio EPA considers that DOE is making a firm commitment to maintaining the independent over-sight that the WAO is intended to provide.
 Response: DOE is firmly committed to the establishment of a Waste Acceptance Organization that will provide independent oversight of all aspects of waste generation, waste transport and handling, waste storage, and waste placement. This organization will exist to ensure for the FEMP owner (DOE), the regulatory agencies (EPA, OEPA), and the FEMP stakeholders not only the acceptability of a waste material for placement into the OSDF, but also the integrity, accountability, and defensibility of the remediation process can be demonstrated (through an evidentiary record of the process).
 Action: Delete the requested wording.
60. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 7.2 Pg #: 7-2 Line #: 27 Code: M
 Original Comment #: 60
 Comment: The Plan states that the WAO project team reports directly to the Vice President for Soil and Water Projects. This is not what the Ohio EPA intended when we proposed that an independent organization be developed to avoid potential conflicts of interest between an organization whose performance is measured by volumes of soil excavated and an organization whose performance is measured by adherence to a rather esoteric WAC protocol.
 Response: Following the discussions on this topic held at the November 5, 1997 meeting, it was agreed that the WAO organization will remain as a reporting organization to the Vice President for Soil and Water Projects. The FEMP remains committed to building an effective WAO organization that will enhance the overall attainment demonstration process. As Ohio EPA pointed out at the meeting, the agency is less concerned about where the organization lines up but rather that its work scope is executed effectively.
 Action: None necessary.
61. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 8.1 Pg #: 8-1 Line #: 14 Code: C
 Original Comment #: 61
 Comment: The plan refers to a WAC compliance assurance program. What provisions are being made for Regulator review and approval of this program?
 Response: The text referenced by the comment relates to development of internal implementing procedures for the WAO organization. These procedures will guide WAO in implementing its responsibilities as defined in the WAC Attainment Plan. The WAC

Attainment Plan is the governing document that defines enforceable regulatory requirements. The referenced procedures are for internal control and clarification purposes only and do not affect the umbrella regulatory requirements. They are analogous to a large number of existing FEMP procedures not subject to agency review and approval, that simply define internal operating parameters consistent with regulatory obligations. As such, DOE does not believe a review of these internal procedures by the agencies is necessary.

Action: No revisions to the document are necessary.

62. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 8.2, 8.3, 8.4 Pg #: 8-1 thru 8-3 Line #: Code: C
Original Comment #: 62

Comment: These sections describe design phase reviews, execution phase reviews and staging and transport reviews. What provisions are being made for Regulator participation in these reviews?

Response: During implementation of the project, DOE will maintain close contact with the regulatory agencies concerning status and identification of key emerging technical issues that require resolution. As previously discussed, the IRDPs and the WAC Attainment Plan are being submitted for regulatory approval. To facilitate field execution, DOE requests that EPA and Ohio EPA identify the key elements of the approved design which will require agency review and/or approval prior to the field implementation of the changes. DOE will continue to proactively involve the agencies in emerging field implementation issues. Any lower tier documents or review processes must be consistent and compliant with these documents, and are only to guide internal operations planning. As such, these items are not expected to activate new issues requiring regulatory agency review and approval.

Action: Continue to proactively involve EPA and Ohio EPA in emerging field implementation issues noted during the review of detailed design documentation and/or field operations planning. The recent successful resolution of issues resulting from the discussions concerning observed field conditions in the South Field is an example of the types of proactive interactions that will be necessary as the FEMP's remedial activities mature into the field stage.

63. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 8.2 Pg #: 8-2 Line #: 13-16 Code: C
Original Comment #: 63

Comment: The section fails to describe what type of changes will require WAO approval. Additional detail and examples should be provided to differentiate between changes requiring and not requiring WAO approval.

Response: The IRDP, when approved by EPA and Ohio EPA, establishes the approved design basis for execution of project activities. The WAC Attainment Plan establishes WAO as a primary peer reviewer of the IRDP, and requires WAO concurrence on the IRDP prior to submittal to the agencies. Accordingly, any subsequent design changes which impact the approved design basis require WAO review and concurrence (and would also therefore require concurrence from the agencies on the design change document or revision and resubmittal of the entire IRDP).

Action: Revise Section 8-2, pg. 8-2, lines 13-16 to read: "Design changes which impact the design basis or alter the designed tolerances established in the IRDP will require review and approval by EPA and Ohio EPA, after WAO has completed a review and concurred on submitted design changes. Changes to the design resulting from unanticipated field conditions which do not impact the design basis or alter the designed tolerances will not require agency review and approval. All design changes will be

performed in accordance with FEMP design change procedures. All design changes will be evaluated by the responsible projects engineering group for impact to the design basis established in the approved IRDP."

64. Commenting Organization: Ohio EPA
 Section #: 8.6 Pg #: 8-4 Line #: Commentor: OFFO
 Original Comment #: 64 Code: M
- Comment: This section addresses the procedures for resolving non-conformances with the WAC Attainment Plan. What provisions are being made for Regulator participation in these reviews?
- Response: ~~The discussion in Section 8.6 was describing internal QA/QC procedures and corrective action documentation protocols that are currently used internally for all site projects. Non-conformance reports are potentially generated for a wide variety of deviations from FEMP approved internal procedures, regardless of how minor the deviation is. This discussion was not meant to imply that a "non-conformance" incident equates to the inadvertent placement of above-WAC material into the OSDF (or the loss of a documentation trail from which to make such a finding). WAO will be monitoring the nature of non-conformances associated with its own procedures, as well as those of the generator organizations and the OSDF organization, to track whether or not systemic issues have arisen that could impact the overall WAC demonstration process for a particular waste stream. Depending on the nature of the non-conformance, the FEMP will share with EPA and Ohio EPA the key improvements and actions resulting from the internal reviews. As EPA and Ohio EPA would expect, in the unlikely event that any of the FEMP's internal review mechanisms discover that above-WAC material is being managed incorrectly, EPA and Ohio EPA will be notified.~~
- Action: Incorporate above response into Section 8.6!