

**RESPONSES TO OHIO EPA COMMENTS
ON THE DRAFT FINAL REMEDIAL ACTION PACKAGE FOR OU1**

Responses to Comments

2418

Commenting Organization: Ohio EPA

Commentor: OFFO

Section #: n/a

Pg #: 0-1

Line #: n/a

Code: General Comment

Comment #: 1 (Original Comment #1)

Comment: We disagree with the statement that "Occupational radon monitoring plans are not required as part of the Remedial Action Package". Normally this would be true, but since the agreement, as understood by OEPA, folds the occupational radon monitoring in with BAT for the control of fugitive radon emissions, a plan for the placement of the radon monitors should be included in the RA Package. Further, this agreement was made as a way for Fernald to save money and time for both the OU1 project and the IEMP.

Response: As discussed in our June 24, 1999 meeting, DOE agrees that it is committed to use occupational monitoring data, as necessary, for purposes beyond occupational monitoring. More specifically, during discussions with OEPA concerning the need for radon treatment of dryer emissions, DOE committed to several radon monitoring approaches to verify that radon emissions were indeed as low as projected. These included dryer stack monitoring and fence line monitoring through the IEMP. In the instance where a compliance problem or an unacceptable trend was noted in the radon fence line monitoring, DOE would then utilize the occupational monitoring data to aid in evaluating the extent to which individual WPRAP activities were contributing to the potential problem. Based on that data evaluation, decisions can be made concerning the need for additional engineering or administrative controls on WPRAP activities. As such, DOE will conduct occupational radiological monitoring within the waste pits during excavation activities and to use the information generated from this monitoring, as necessary, to support environmental monitoring. As stated above, the data will be used, as necessary, to support the data interpretations conducted through the IEMP, relative to the impact on fence line concentrations by WPRAP, and to support decision-making on supplemental actions for the implementation of BAT. As agreed with OEPA, DOE will share various information regarding these occupational radon monitors with OEPA, including the plans for placement of the monitors, information regarding future changes in that placement, and data gathered through this occupational monitoring. Although the substance of this agreement will be reflected in the Remedial Action (RA) Package (i.e., in the Sampling and Analysis Plan (SAP) for Environmental Media), it was agreed that the detailed information would be more appropriately provided to OEPA as it is developed. For example, OEPA was recently provided with WPRAP's plan for the location of continuous working level monitors that will support WPRAP's occupational monitoring program (Reference: DOE-0681-99, FERNALD ENVIRONMENTAL MANAGEMENT PROJECT WASTE PITS REMEDIAL ACTION PROJECT: LOCATION OF CONTINUOUS WORKING LEVEL MONITORS, May 3, 1999. This plan provides OEPA with the location of the monitors as well as the basis for selecting the locations.

Action: Revisions have been made to the SAP for Environmental Media to provide general information on the above agreement (see responses to OEPA Comments #22 & #24), and to specifically remove any statements that appear to be contrary to this agreement. In addition, as detailed information is developed concerning the occupational radon monitoring (as discussed above), it will be transmitted to the EPAs.

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Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: n/a Pg #: 0-4 Line #: n/a Code: C
 Comment #: 2 (Original Comment #5)

Comment: The response indicates that the high radon alarm will be 0.013 Ci/hr, but the design of the stack emission radon monitor is stated to be 0.01 Ci/hr. Typical detection design is to monitor to at least 10% of the limit.

Response: There are 2 radon monitors on the stack. As detailed in the response to OEPA Comment #35 on the Draft RA Package, DOE has agreed that notification will be made when the Rn-222 concentration exceeds 0.013 Ci/hr. To facilitate this, the first monitor is capable of differentiating (i.e., discriminating) between Rn-220 and Rn-222 at lower concentrations (i.e., at a range of 0.1 to 5000 pCi/L, or 0.1 uCi/hr to 0.005 Ci/hr), thereby providing for detection well below 10% of the reporting limit. At higher concentrations, the Rn-219, Rn-220, and Rn-222 is combined into a total activity concentration. It is this second monitor, which measures total radon (at a range of 0 to 1,899,900 pCi/L, or 0 to 2 Ci/hr), that provides for an alarm at 0.01 Ci/hr. This information, as it relates to detection limits and the alarm design are summarized in the following table:

Monitor	Type	Range		Alarm
Low level	Discriminating	0.1 microCi/hr	0.005 Ci/hr	None
High level	Non-discriminating	0	2 Ci/hr	0.013 Ci/hr

The range is based on an estimated design flow rate of 660 cfm in the duct.

Action: No action required.

Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 1.2 Pg #: 3 Line #: 4-9 Code: C
 Comment #: 3 (Original Comment #6)

Comment: This paragraph references soils generated as part of OU1 that will go to the OSDF. The document should clearly define which soils DOE believes are appropriate for the OSDF. Most importantly any soils which DOE intends to send to the disposal cell must be characterized in-situ and in accordance with the SEP and WAC Attainment Plan. Further incidences in which IT excavates soils and generates piles without prior characterization, must not be tolerated.

Response: Residual contaminated soils, i.e., contaminated soils outside of the waste pits and soils below the pit liners, will be excavated until final remediation levels (FRLs) are met. The excavation will be directed by the Soil Characterization and Excavation Project (SCEP); determination of the depth of excavation, final disposition, and certification sampling (for FRL attainment) of the excavated soils and base of excavation will be performed by the SCEP in accordance with the Sitewide Excavation Plan, specifically, the Integrated Remedial Design Plan associated with Remediation Area 6. Disposition of these soils to the OSDF will be consistent with the Waste Acceptance Criteria for the OSDF and thus, will be managed in accordance with the WAC Attainment Plan.

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Action: The text in Section 1.2 of the SAP for Waste Pit Material has been modified as follows to make this clear: "This SAP also does not include the sampling and analysis of residual contaminated soils (i.e., contaminated soils outside of the waste pits and soils below the pit liners). Once the waste pit materials are removed, the excavation of these residual soils will be performed under the direction of the Soil Characterization and Excavation Project (SCEP), consistent with the Sitewide Excavation Plan. Specifically, all residual soils excavation will be performed by SCEP in accordance with the Area 6 Integrated Remedial Design Package (IRDP). The IRDP will provide the sampling and analysis requirements for this soils excavation, including sampling and analysis for final disposition and certification (i.e, FRL attainment). Disposition of any of these soils to the On-Site Disposal Facility (OSDF) will be consistent with the WAC for the OSDF and thus, will be managed in accordance with the WAC Attainment Plan."

Commenting Organization: Ohio EPA Commentor: OFFO
Section #: n/a Pg #: 0-5, 6 Line #: n/a Code: C
Comment #: 4 (Original Comment #7)
Comment: Disagree that no action is required. Ohio EPA will verify compliance using the standards outlined in OAC 3745-17-12, et al.

Response: As the original comment referenced sections of the RA Package text, "no action required" meant that no changes to the text were required; it did not mean that actions would not be taken to comply with the requirement. The WPRAP will comply with the FEMP Sitewide Dust Policy and will verify compliance using the referenced standards. DOE acknowledges that OEPA will also independently verify compliance with the requirements.

Action: No modifications necessary to the RA Package.

Commenting Organization: Ohio EPA Commentor: OFFO
Section #: n/a Pg #: 0-6, 7 Line #: n/a Code: C
Comment #: 5 (Original Comment #9)
Comment: The statement "It is neither the purpose, nor the intent, of this occupational monitoring to ensure the effectiveness of BAT" is not consistent with OEPA's understanding of previous agreements. If ensuring the effectiveness of BAT is not one of the purposes of 5 radon monitors proposed, then DOE should provide a comprehensive radon monitoring plan to ensure that radon emissions are ALARA.

Response: See response to OEPA Comment #1.

Action: See response to OEPA Comment #1.

Commenting Organization: Ohio EPA Commentor: OFFO
Section #: n/a Pg #: Line #: n/a Code: C
Comment #6 (Original USEPA Comment #4)
Comment: OEPA agrees with USEPA comment. As part of comprehensive monitoring network Ra-226 should be included as one of the isotopes measured from the stack emissions. IEMP fence line monitors analyze for this isotope and it makes

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management of materials which are RCRA and/or TSCA waste (or potentially RCRA and/or TSCA) need to be better identified. For example, this section makes references to a "Non-Typical Waste Transfer Area" but does not provide information on the location of this area, nor detailed operational procedures.

NOTE: Section 8.0 provides a listing of "Procedures and Plans Governing Operations", including Standard Operating Procedures (SOP) for aspects of this project (e.g.; Waste Pit Material Handling; Non-Typical Waste Handling; Waste Pit Water Management, etc.). These SOP's are not provided as part of the WPRAP document and this reviewer assumes that some SOP's are not yet developed. If this is the case in regard to the Non-Typical Waste Transfer Area, Ohio EPA must concur with, or approve of, SOP information developed concerning the identification, characterization, and management of RCRA (or potentially RCRA) wastes excavated or encountered during waste pit excavation.

Response: See the response to OEPA Comment #8. Regarding the specific issue on the location of the Non-Typical Waste Transfer Area, Section 5.2 of the O&M Plan states, and the Site Facilities Layout contained in Appendix II of the O&M Plan shows, that this Area is located between Waste Pits 4 and 6.

Action: See the response to OEPA Comment #8 regarding information submitted on the overall management of non-typical waste at the FEMP.

Commenting Organization: Ohio EPA Commentor: DHWM
Section #: 5.1 Pg #: 29 Line #: 25 Code: M
Comment #: 11

Comment: The non-typical waste criterion for drums (or other containers) that might be encountered during excavation should not be so narrow as "unopened intact drums".

Response: The reason that DOE has chosen to include only "unopened intact drums" among the containers to be considered as non-typical waste, is that any opened or partial container would be expected to contain waste material, and co-mingled with that material found around the container. In other words, the waste in the opened or partial container would be considered to be consistent with other wastes, or typical wastes, unless there is some other apparent basis for determining it to be potentially non-typical. Unopened intact drums, on the other hand, could contain wastes that can be distinguished from the wastes around it.

Action: No further action required with respect to this RA Package.

Commenting Organization: Ohio EPA Commentor: DHWM
Section #: 5.2 Pg #: 30 Line #: 4 & 5 Code: C
Comment #: 12

Comment: The statement that "Treatment of non-typical wastes includes emptying and appropriately managing the contents of drums, cylinders, transformers, etc.", does not adequately describe the reasonable procedures necessary for proper management of such material.

Response: See response to OEPA Comment #8.

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Action: See the response to OEPA Comment #8 regarding information submitted on the overall management of non-typical waste at the FEMP.

Commenting Organization: Ohio EPA
Section #: 5.2 Pg #: 30 Line #: 10-23
Comment #: 13

Commentor: DHWM
Code: C

Comment: Materials encountered which possess or exhibit "pyrophoric properties" may meet the definition of a RCRA characteristic (D003-reactive) waste.

Response: Once it is determined that material is a non-typical waste (in this instance, based on pyrophoric properties), it will be initially managed as discussed in the response to OEPA Comment #8. Whatever characterization is necessary to properly manage and dispose of the waste (e.g., an assessment of RCRA characteristics) will then be performed.

Action: See the response to OEPA Comment #8 regarding information submitted on the overall management of non-typical waste at the FEMP.

Commenting Organization: Ohio EPA
Section #: 5.2 Pg #: 31 Line #: 7, 8 & 9
Comment #: 14

Commentor: DHWM
Code: C

Comment: An inspection of drum contents would most probably be insufficient to make a determination of "processable or non-processable" in the event of encountering RCRA and/or TSCA wastes.

Response: In the context used, the "inspection" of the drum refers to an evaluation to determine whether the material in the drum is similar to other typical waste materials in the pits. This is one part of the non-typical waste evaluation process. If there is a basis for determining or suspecting the presence of RCRA or TSCA wastes, those materials will be flagged as non-typical. If this inspection does not provide the information necessary to make a clear determination as to whether the waste is typical or non-typical, field screening will be performed. Once material is determined to be non-typical, through these field activities, it will be transferred to FDF for any final characterization needed to support off-site disposal (see response to OEPA Comment #8).

Action: See the response to OEPA Comment #8 regarding information submitted on the overall management of non-typical waste at the FEMP.

Commenting Organization: Ohio EPA
Section #: ARAR Tables Pg #: Line #:
Comment #: 15

Commentor: DHWM
Code: C

Comment: The ROD ARARs table references OAC 3745-52-11 (40 CFR 262.11). This reference is omitted from the Draft Final WPRAP Remedial Action Package ARARs table. This should be added as an applicable and appropriate regulation, and narrative should be added throughout the document to reflect that waste generated (pit material, pyrophoric material, non-processable material, drummed material, etc.) will be properly characterized to determine whether it is a hazardous

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waste.

Response: In its review of various copies of the Draft Final WPRAP RA Package, DOE found that all such copies did contain the subject requirement. Specifically, this requirement is included on Page 5 of 8 in Table 7-1c, and again on Page 1 of 3 in Table 7-2c of the Substantive Permitting Requirements. DOE apologizes if this page was inadvertently omitted from OEPA's copy of the RA Package. As noted in Table 7-2c, narrative has been added throughout the RA Package relative to the characterization of these wastes. In particular, as noted in Table 7-2c, the SAP for Waste Pit Materials (e.g., Section 2) provides an extensive discussion of the characterization process needed to determine whether the waste has hazardous characteristic properties which would prohibit its disposal at Envirocare.

Action: DOE will ensure that the Final RA Package includes the subject ARAR in the tables.

Commenting Organization: Ohio EPA
Section #: ARARs Table Pg #: Line #: Commentor: DHWM
Code: C
Comment #: 16

Comment: The ARARs table references OAC 3745-56-51,54 and 58, which are waste pile regulations. The compliance strategy language identifies the possibility of outdoor waste piles, and briefly references management standards for these piles. Various sections of the WPRAP Remedial Action Package are referenced for design information. These sections do not provide specific information which describe run-on/run-off and wind dispersion control measures for these piles. These sections must be revised to include such specific descriptions.

Response: As stated in the table "no outdoor waste stockpiles, outside of the waste pit area, are anticipated during the operation of the facility." Because these tables are a carryover from the RD Package, there is some discussion, however, of the outdoor stockpiles utilized during this phase of the project. To avoid confusion, the discussion of the use of outdoor stockpiles will be deleted. In terms of the management of indoor stockpiles, such detail is provided in the references identified under "Index to Design"; particularly for collection and management of stormwater/wastewater and dust control measures.

Action: The subject table will be revised to delete any reference to the potential use of outdoor waste stockpiles.

O&M Plan:

Commenting Organization: Ohio EPA
Section #: 3.3.1 Pg #: 22 Line #: 4-10 Commentor: OFFO
Code: C
Comment #: 17

Comment: Please provide design drawings for CAM including logic used to discriminate Rn-220 and Rn-222, as well as, the discrimination between radon daughters and particulate collected on the filter.

Response: Comment acknowledged.

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Action: The requested material has been included as Attachment B to this response to comment document.

Operations Environmental Control Plan:

Commenting Organization: Ohio EPA
Section #: 4.1 Pg #: 7 Line #: 3-6
Comment #: 18

Commentor: DSW
Code: C

Comment: This states that "Silt fences will be utilized in the waste pit area to prevent excessive erosion and/or sedimentation during excavation activities" Installation of silt fence is to cause sedimentation. The silt fence acts as a porous dam to slow the flow of runoff. Retention time allows the sediment to settle. Silt fence can be used to reduce erosion by capturing and slowing sheet flow.

Response: Comment acknowledged.

Action: The text has been revised: The first sentence, "Silt fences will be utilized in the waste pit area to prevent excessive erosion and/or sedimentation during excavation activities." has been deleted and replaced with, "Silt fences will be utilized in the waste pit area during excavation activities to reduce erosion by capturing and slowing sheet flow."

Commenting Organization: Ohio EPA
Section #: 5.1 Pg #: 8 Line #: 27-31
Comment #: 19

Commentor: OFFO
Code: C

Comment: This paragraph states a number of measures that may be used to minimize dust generation. One of the measures to include should be a "street-sweeper" or a statement that would state, "or any other measures to ensure compliance with applicable regulations".

Response: Comment acknowledged.

Action: The text has been revised to state, "...sprinklers, spray nozzles, or any other reasonable measures to ensure compliance with applicable regulations".

Commenting Organization: Ohio EPA
Section #: 6.3 Pg #: 11 Line #: 11-12
Comment #: 20

Commentor: OFFO
Code: C

Comment: The text states that CAM system readings may also be compared to the FDF stack limits to verify compliance with emission limits. Comparing the CAM system readings to the FDF stack limits is a good management practice. Change "may" to "shall".

Response: Comment acknowledged.

Action: The text has been revised to change "may" to "shall".

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Sampling and Analysis Plan for Environmental Media:

Commenting Organization: Ohio EPA

Commentor: OFFO

Section #: 1.2

Pg #: 2

Line #: 24-26

Code: C

Comment #: 21

Comment: This bullet states that air monitoring contained within the IEMP is not addressed in the SAP. Provide a description of how IEMP air monitoring will be "integrated" into the WPRAP project; i.e., how will data be used for decision making, which monitors will be used for decision making, frequency of data reporting, and administrative control limits for concentrations that would lead to a decision making process.

Response: The air monitoring approach presented in the IEMP (Revision 1) includes, in part, the use of 18 high volume air particulate monitors located at the facility fenceline and 27 continuous radon monitors located at the facility fenceline and other on-property locations. The data from these monitors are routinely evaluated by the Environmental Monitoring project to track and assess changes in radiological air particulate and radon concentrations at the facility relative to EPA and DOE standards. This information is regularly shared with WPRAP and the other FEMP projects through the IEMP quarterly status reports. In addition, if during the routine data evaluation process an increasing trend is identified that could lead to an exceedance of a regulatory standard or result in an unacceptable off-site condition then response actions will be implemented by the appropriate project(s) to address the situation as defined in Sections 1.5 and 6.6 of the IEMP (Revision1).

Action: No additional action required with respect to the RA Package.

Commenting Organization: Ohio EPA

Commentor: OFFO

Section #: 1.2

Pg #: 2

Line #: 28-31

Code: C

Comment #: 22

Comment: This bullet states that occupational radon monitoring is not included in this SAP. If neither environmental nor occupational monitors are included as part of the SAP a discussion on the integration of the results does need to be included. Prior agreements entailed using the occupational radon monitors to measure the effectiveness of BAT radon control measures, as well as providing occupational information.

Response: As discussed in the response to OEPA Comment #1, the data generated from the occupational radon monitoring will be used, as necessary, to support the data interpretations conducted through the IEMP, relative to the impact on fenceline concentrations by WPRAP, and to support decision-making on supplemental actions for the implementation of BAT. The intent of the discussion in the SAP was not to downplay the potential importance that this monitoring, or the IEMP fenceline monitoring, might play in the overall environmental monitoring process for WPRAP, but rather to state that the details of these monitoring activities are not to be specifically addressed in this SAP. This section of the subject SAP will be revised, however, as suggested in the comment to provide for some discussion on the integration of the results of these programs into the overall WPRAP program, as necessary.

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Action: The following paragraph has been added to Section 1.2 of the SAP for Environmental Media: "Although this SAP does not provide specifics about the above sampling and analysis efforts, this is not to say that the information gained from these efforts will not play an integral part in ensuring that WPRAP activities are efficiently and effectively managed. To the contrary, through IEMP monitoring (for air emissions), for example, unacceptable trends or compliance problems at the fence line will be assessed to determine the need to upgrade project-specific activities (e.g., emission controls). Specific examples of how these sampling and analysis activities will be integrated into WPRAP's characterization strategy are provided in media specific sections of this SAP (e.g., in Section 4 for air emissions)." In addition, Section 4.1 of the SAP for Environmental Media has been revised as discussed in the response to OEPA Comment #24.

Commenting Organization: Ohio EPA
Section #: 3.3, 3.4 Pg #: 26 Line #: 6-33 Commentor: DSW Code: C
Comment #: 23

Comment: The short list of parameters has been agreed to but a longer list of parameters and frequency of sampling is still under development.

Response: The "short list" discussed in the subject section, and the respective "longer list" discussed in the comment both relate to the discharge of stormwater from the OU1 Stormwater Management (SWM) Pond to NPDES Outfall 4006. Based on discussions with OEPA, the point of discharge is being changed to provide for discharge through NPDES Outfall 4005. With this change, the SAP for Environmental Media will be revised to show the agreement with OEPA to sample only for total uranium prior to each discharge.

Action: The SAP for Environmental Media (as well as other affected documents in the RA Package) has been revised to reflect the change in the SWM Pond discharge.

Commenting Organization: Ohio EPA
Section #: 4.1 Pg #: 31 Line #: 18-20 Commentor: OFFO Code: C
Comment #: 24

Comment: The text references Section 1.2, on how IEMP air monitoring will provide adequate monitoring for implementation of the OU1 remediation. Section 1.2 does not provide any detail on how IEMP monitoring will provide adequate monitoring. See comment 10.

Response: Agree. The referenced section (i.e., Section 1.2) does not provide a discussion of the adequacy of IEMP monitoring in support of the OU1 remediation. As discussed in the response to OEPA Comment #22, the text in Section 1.2 will be revised to clarify how these other sampling and analysis efforts do play a part in the effective and efficient management of WPRAP activities. In addition, Section 4.1 will be revised to discuss the specifics relative to the role that the IEMP monitoring and the occupational monitoring will play in WPRAP activities.

Action: Revisions have been made to Section 1.2 of the SAP for Environmental Media as discussed in the response to OEPA Comment #22. In addition, Section 4.1 of the SAP for Environmental Media has been revised to delete much of the discussion in

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Action: No further action required on RA Package.

Commenting Organization: Ohio EPA
Section #: Table 4.2 Pg #: 36 Line #: n/a
Comment #: 29

Commentor: OFFO
Code: C

Comment: Radium-226 should be included as an analyte for stack emissions. Although emission estimates (based on modeling) show that this radionuclide will contribute less than 10% of TEDE, the data used, presumably RI/FS, is rather sparse and would indicate a high level of uncertainty in the estimates. Radium-226 maximum concentrations in Pits 2 and 3 are ~14% of total U concentrations, ~30% total Th concentrations. This would indicate that radium-226 may make a more significant contribution to TEDE than estimated.

Response: Ra-226 will be routinely screened for activity by alpha spectroscopy on the filter paper. If it appears that Ra-226 is a contributor to the effluent, the stack sample will be analyzed for Ra-226.

Action: No action required.

Sampling and Analysis Plan for Waste Pit Material:

Commenting Organization: Ohio EPA
Section #: 1.2 Pg #: 2 Line #: 41-45
Comment #: 30

Commentor: OFFO
Code: C

Comment: This paragraph should be revised to reflect the fact that SP-7 was characterized in-situ.

Response: Agreed.

Action: The paragraph which includes the subject discussion (i.e., which began with "As of March 1999,...") has been deleted. In doing so, the conclusion, as stated in the paragraph which precedes this is that "... the first loadout sampling was conducted predominantly in-situ by taking advantage of the accessibility of the SP6 (and SP7) stockpiles for the pile-wide sampling ahead of excavation," with the only ex-situ sampling therefore being for geotechnical parameters.

Commenting Organization: Ohio EPA
Section #: 1.2 Pg #: 3 Line #: 4-9
Comment #: 31

Commentor: OFFO
Code: C

Comment: This paragraph references soils generated as part of OU1 that will go to the OSDF. The document should clearly define which soils DOE believes are appropriate for the OSDF. Most importantly any soils which DOE intends to send to the disposal cell must be characterized in-situ and in accordance with the SEP and WAC Attainment Plan. Further incidences in which IT excavates soils and generates piles without prior characterization, must not be tolerated.

Response: Residual contaminated soils, i.e., contaminated soils outside of the waste pits and soils below the pit liners, will be excavated until final remediation levels (FRLs) are

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hazardous waste). In the rare event that the characteristics of this material are determined to be indicative of non-compliant waste, the entire contents of the bin will be immediately treated as such. Given the significantly increased expense, however, associated with managing this quantity of material (i.e., about 600 cubic yards) as Envirocare non-compliant waste, WPRAP plans to try to define the extent of the problem, as shown in Figures 2.2 through 2.5. Specifically, WPRAP plans to conduct additional sampling designed to isolate those portions of the 600 cubic yard lot that are contributing to the non-compliance. If feasible, those portions causing the exceedence would then be segregated for management as Envirocare non-compliant waste.

The specific approach for defining the extent of the problem will be developed if and when a non-compliant event occurs, after WPRAP has had further experience in managing operations of the OU1 process. This experience will allow WPRAP to determine accurate laboratory turnaround times, assess shift availability to perform the work, assess the overall project schedule status, and develop a plan appropriate to the project circumstances at the time of the actual event. Accordingly, at the time of the event, WPRAP will develop an isolation plan, submit it to OEPA/ USEPA for review and approval, and proceed pursuant to Agency direction."

Commenting Organization: Ohio EPA
Section #: 2.3.2 Pg #: 10 Line #: 11
Comment #: 35

Commentor: HSI Geo Trans, Inc.
Code: C

Comment: Pre-designation of specific soil increments for PID screening is only appropriate given that there is no visual justification for selecting any one increment over another. Given the occurrence of staining or other evidence for contamination, the selection of soil increments for PID screening should be biased on visual characteristics of the soil.

Response: The intent of specifying the soil increments to be used was to: 1) force testing throughout the process (i.e., beginning, middle, and end), and 2) eliminate operator bias. The setting of a criteria as subjective as "visual characteristics" is not practical and invites bias that could compromise the validity of the data.

Action: No action required.

Commenting Organization: Ohio EPA
Section #: 2.3.2 Pg #: 10 Line #: 18
Comment #: 36

Commentor: HSI Geo Trans, Inc.
Code: C

Comment: As indicated in the footnote, the PID readings will be used as a proxy for passing TCLP concentrations and that given the occurrence of a higher reading, the corresponding sample will be TCLP tested to verify that it also passes TCLP. Implicit in this approach is that all samples that "peg" the PID meter (give an off scale reading) will require TCLP testing because a sample that pegs the meter and passes will not be distinguishable from one that pegs the meter and fails.

Response: Agreed. Since historical data indicates low organics, DOE expects that "pegging" the meter to be a very rare event. If this is not the case, then the data loses its

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intended value (i.e. screening). Should this be the case, the procedure will be revised to extend the useful range of the test.

Action: The following sentence has been added to the end of the subject footnote: "All readings which "peg" the PID meter (i.e., give an off-scale reading) will require TCLP organic analysis."

Commenting Organization: Ohio EPA
Section #: 2.3.2 Pg #: 11 Line #: 20
Comment #: 37

Commentor: HSI Geo Trans, Inc.
Code: C

Comment: For clarity, the text should define the term "reference Procter" as used on Figure 2.7.

Response: Envirocare does not require a proctor test for standard shipments. The requirement is that the material be suitable for compaction, as compared to the optimum moisture content. The 5-point proctor test is being used to determine the optimum moisture content. The 1-point proctor test is used to ensure that the material type has not changed. If the 1-point proctor test indicates a change in material type, then a new 5-point proctor test will be performed to determine the new optimum moisture content.

Action: The text will be revised to clarify.

Commenting Organization: Ohio EPA
Section #: 2.3.2 Pg #: 11 Line #: 19
Comment #: 38

Commentor: HSI Geo Trans, Inc.
Code: C

Comment: Rather than stating that the Proctor density evaluations will be revised from time to time, the text should be changed to indicate that the Proctor density evaluations will be revised whenever there is a significant change in the appearance of the material.

Response: Experience with first loadout data has shown that evaluation of single point Proctor data against five point data has been a better indicator of the need for a new five point curve than a subjective visual inspection. DOE expects this to be even more pertinent with waste materials where vivid colors of major components can impact the utility of visual inspections.

Action: The text has been revised to state, "from time to time (i.e., when there are significant changes in the appearance of the material), utilize.."

Commenting Organization: Ohio EPA
Section #: 2.3.2 Pg #: 11 Line #: 23
Comment #: 39

Commentor: HSI Geo Trans, Inc.
Code: C

Comment: The text should clarify the exact Proctor test that is required by Envirocare. Will the comparison be made to the standard Proctor or the modified Proctor test?

Response: Envirocare does not require a proctor test for standard shipments. The requirement is that the material be suitable for compaction, as compared to the optimum

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moisture content. The 5-point proctor test is being used to determine the optimum moisture content. The 1-point proctor test is used to ensure that the material type has not changed. If the 1-point proctor test indicates a change in material type, then a new 5-point proctor test will be performed to determine the new optimum moisture content.

Action: The text will be revised to clarify.

Commenting Organization: Ohio EPA
Section #: 2.0 Pg #: 25, Table 2.5 Line #: N/A
Comment #: 40
Comment: Footnote 5 is not used in the table.

Commentor: HSI Geo Trans, Inc.
Code: E

Response: The note applies to all of the alpha emitters (U234, U235, U238, Th230, Th232, Ra226). It should be noted that Footnote 10 also applies to Th232 which should also be in secular equilibrium with Ac228.

Action: The table has been revised to reference Footnote 5 for the alpha emitters; and to reference Footnote 10 for Ac228.

Commenting Organization: Ohio EPA
Section #: 4.0 Pg #: 33 Line #: 6
Comment #: 41
Comment: The text should be revised from "...when precleaned equipment is used between composite sampling..." to "...when precleaned equipment is used during composite sampling..."

Commentor: HSI Geo Trans, Inc.
Code: E

Response: Comment acknowledged.

Action: The text has been revised to state "...when precleaned equipment is used during composite sampling..."

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**Attachment A
OEPA Comment Response
Non-Typical Wastes**

1.0 Definition of Non-Typical Wastes

Non-Typical Waste is a term used within the scope of work in the contract between Fluor Daniel Fernald (FDF) and IT Corporation (IT). The term "Non-Typical Waste" in the subcontract is defined to be those items which are encountered during the course of the remediation which do not meet, and cannot be processed using IT's onsite operations to meet the Envirocare Waste Acceptance Criteria (WAC). These materials are not loaded into railcars, but are transferred to FDF for treatment and/or disposal. The categories of non-typical waste defined in the subcontract are:

- 1) Pyrophoric materials
- 2) Compressed gas cylinders
- 3) Transformers and other forms of waste potentially contaminated with PCBs at levels of regulatory concern
- 4) Unopened, intact drums
- 5) Large debris that cannot be size reduced to meet the Envirocare WAC
- 6) Thorium metal/oxides (concentrated materials that cannot be blended to meet the Envirocare WAC)
- 7) Asbestos materials not meeting the Envirocare WAC
- 8) Small explosive devices (Fenwal Actuators and nail gun charges)
- 9) RCRA waste from railcar loadout building bins.

Non-Typical Wastes are a subcontractual and operational planning contingency and are not anticipated to be routinely encountered.

2.0 Interim Staging of Potential Non-Typical Wastes

All potential non-typical wastes identified in the excavation and material handling activities will be placed in an interim staging location. The waste pit area will have an interim staging location for items discovered in the excavation process. The Material Handling Building (MHB) will also have an interim staging location for items discovered inside of the MHB. The waste pit staging location will be a minimum of 30 feet from the pit excavation, constructed on a compacted and level surface and will be relocated as the excavation process progresses. Common features of the interim staging areas will be:

- 1) The area will be designated with high visibility markers and signs designating it as a non-typical waste interim staging area.
- 2) Segregation will be provided for potentially incompatible non-typical wastes.
- 3) Materials transferred to the interim staging area will either already be in overpack drums and containers, or the items will be placed on polyethylene sheeting. Drummed material suspected to be RCRA characteristic will be labeled and segregated accordingly.
- 4) Routine inspections will be conducted and documented.
- 5) Water management and dust controls will be in accordance with the general project requirements and the specific pit area or MHB controls.

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3.0 Operational Methods for the Identification and Handling of Non-Typical Wastes

3.1 Pyrophoric Materials

Oxidation is anticipated to have occurred within the waste pits and pyrophoric materials are not anticipated to be routinely encountered. Pyrophoric materials will be visually identified via display of pyrophoric properties (smoke, steam or fire) in the excavation and material handling activities, or via sampling and analysis of materials in the railcar loadout bins. Any pyrophoric fires will be controlled using adjacent pit materials, magnesium fluoride or Metal-x™ fire extinguishers. Pyrophoric materials will be placed in an appropriately sized container along with an extinguishing media such as sand and then transferred to the referenced segregated and demarcated staging area within the waste pits area. The staging area will be relocated within the pit area as the pit excavations progress. IT will remove the material from the staging area, overpack it into an FDF supplied drum or box and transfer the material to FDF Waste Management (WM) at the designated non-typical waste transfer point. The pyrophoric wastes will be removed by FDF WM and placed in interim storage at an approved location on the Plant 1 Pad.

3.2 Compressed Gas Cylinders

There are no documented records of full, partially filled or empty compressed gas cylinders being disposed of in the waste pits and cylinder encounters are expected to be rare to non-existent. Cylinders will be visually identified during excavation or material handling activities. Upon discovery of a cylinder, work in the immediate area will be stopped. If the cylinder appears to be, or is known to be leaking, the area will be evacuated and both IT and FDF will implement contingency plans and emergency response procedures. If the cylinder is not leaking, a two person team in Level B Protection will inspect and assess the cylinder. The cylinder will be inspected for integrity, stability and damage, along with the marking labels, valve type and other physical features providing information on potential contents. This assessment will identify the cylinder as either "restricted" or "unrestricted." The restricted category applies to containers with unknown contents, poor structural integrity, or are otherwise determined by IT to be unsafe for handling. The unrestricted category applies to containers with known contents, good structural integrity, or are otherwise determined by IT to be safe for handling.

If a restricted category cylinder is discovered, the excavation work will be moved to a new location, the area around the cylinder will be protected with sand bags, or other means, and appropriately marked and identified, and a specialty cylinder remediation company will be contacted to provide technical and handling assistance.

Unrestricted cylinders will be remotely handled using a grappler and placed upright in a cylinder rack. The cylinder rack will be staged in a location surrounded by protective barriers.

Cylinders with releaseable gases such as nitrogen will be safely vented in the pit area.

3.3 Transformers and Other Forms of Potential PCB Wastes

Transformers and other forms of potential PCB wastes will either be visually identified during the excavation and material handling activities as a transformer or an intact, labeled drum or via sampling and analysis in the railcar loadout bins in accordance with the Sampling and Analysis Plan. Any visually identified PCB wastes will be picked up, along with any adjacent stained soils or materials, and moved to an in-pit staging area. The staging area will be segregated and the materials will be placed on polyethylene. The designated staging area will be relocated as the pit excavation progresses. IT will remove the material from the staging area, overpack it into an FDF supplied container and transfer the container to FDF WM at the designated non-typical waste transfer point. Liquid and solid PCB wastes will be placed into interim storage by FDF WM at an

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approved location on the Plant 1 Pad.

3.4 Unopened, Intact Drums

Unopened, intact drums will be visually identified in the excavation. Once spotted, a two person team in Level B protection will inspect the drum. Initially, the drum will be surveyed with the field instrumentation for explosive gases, organic vapors and for the presence of concentrated thorium fines. The drum will be visually inspected for labels, markings, lot codes, drum type and features, along with signs of bulging, dents, gouges or other damage. After the initial visual inspection, the drum lid will be remotely punctured with a non-sparking brass punch to relieve the internal pressure and allow access to the drum. Once the drum has been punctured, a second assessment of the drum will occur. Field sampling involving the use of radiological instrumentation, a photoionization detector, combustible gas detector, pH paper and a flashlight for visual inspection of the contents will be considered. This activity will provide enough information to safely move the drum to the non-typical waste staging area. The drum will be overpacked and the overpack will be moved to a segregation area in the non-typical waste staging area. Sampling and characterization of the drum contents will be performed to determine if the waste can go to Envirocare or if it is non-typical waste and must be transferred to FDF. Envirocare bound waste will be returned to the IT processing activities. Drums containing non-typical waste will be transferred from IT to FDF WM in the Non-Typical Waste transfer Area. Overpacked drums will be placed into interim storage at an approved location on the Plant 1 Pad while FDF WM assesses treatment and disposal options.

3.5 Oversize Debris

IT will have various hydraulic and mechanical size reducing equipment available for use on the project. In the unlikely event that a visually identified object cannot be size reduced to meet the Envirocare WAC, the object will be moved to the non-typical waste staging area. The oversize debris will be transferred to FDF WM for interim storage at an approved location on the Plant 1 Pad.

3.6 Thorium Metal/Oxides

This category of non-typical waste involves radiological wastes that do not meet, and based on IT's evaluation, cannot be blended with other materials, to meet the Envirocare WAC. These materials will be identified via a combination of visual identification and the use of specialized radiological survey instrumentation. If identified, this material will be placed in an overpack drum or ISO container and staged in a demarcated section of the non-typical waste staging area. This container will then be transferred to FDF WM where it will be placed in interim storage at an approved location on the Plant 1 Pad.

3.7 Asbestos

Asbestos waste not meeting the Envirocare WAC will be visually identified, placed in double plastic bags, labeled and placed in the non-typical waste staging area. The bagged waste will be transferred to FDF WM at the Non-Typical Waste Transfer Area, moved to interim storage by FDF at an approved location on the Plant 1 Pad.

3.8 Small Explosive Devices

These items are small quantities of nail gun charges and halon fire-protection actuators containing about 1.55 grains of Class C explosive reported to have been placed in the pits. These items will be visually identified and placed into plastic buckets with sand using non-sparking tools. The buckets will be placed in the non-typical waste staging area and subsequently transferred to FDF WM at the Non-Typical Waste Transfer Area. FDF WM will place the materials in interim storage at an approved location on the Plant 1 Pad while treatment and disposal alternatives are

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evaluated.

3.9 RCRA Wastes from the Railcar Loadout Bins

RCRA waste will be identified via the Sampling and Analysis Plan. RCRA waste will be placed into a lined roll-off box, or other suitable container, and taken to the Non-Typical Waste Transfer Area. FDF WM will place the container into interim storage at an approved location on the Plant 1 Pad while treatment alternatives are evaluated.