

DOE RESPONSES TO OHIO EPA COMMENTS ON THE DRAFT AREA 1, PHASE II
SUPPLEMENTAL CHARACTERIZATION PACKAGE

1998

- 1) Commenting Organization: OEPA Commentor: OFFO
Section #: Pg. #: Line #: Code: C
Original Comment #: 10
Comment: Ohio EPA still can not see the benefit to a segregated SP-7. Segregation will require additional resources and effort to maintain. If DOE is insistent upon segregation of the pile, then the document must be revised to include detailed procedures for equipment operation within the pile area, drawings of the pile and traffic patterns, procedures for manifesting shipments to the pile, detail on segregation control, etc.
- Response: Segregation of SP-7 into two stockpile areas provides flexibility to improve the efficiency and cost-effectiveness of future handling and disposition of material from the FEMP. The above-WAC technetium-99 digester sludge has a significantly higher moisture content than the other material; keeping this material separate from the other material will allow future blending options for off-site disposal. The current design includes requirements for separating and maintaining the existing SP-7 stockpile with two separate areas. This stockpile will be managed in accordance with existing FEMP WAO procedures. Also, keeping the material segregated will allow future application of segmented gates technology, if approved by the regulatory agencies. A test for the application of this technology is tentatively scheduled for Stockpile SP-2 at the FEMP for September 1999. Simply stated, separate stockpile areas provide more flexibility and ultimately more options to optimize and improve the efficiency of the FEMP mission.
- Action: No action at this time. SP-7 will be segregated into separate stockpile areas to provide flexibility (and potential flexibility) during future operations of the stockpile.

- 2) Commenting Organization: OEPA Commentor: OFFO
Section #: Pg. #: Line #: Code: C
Original Comment #: 15
Comment: As stated in the original comment the text of the document should be revised to address all wetlands within A1PII. Additionally, it is important to note that wetland mitigation is separate from natural resource restoration activities. Wetland mitigation plans are separate submittals from the restoration plan.
- Response: All wetlands within A1PII which formed after the 1993 wetland delineation have been identified and will be compensated through on-site wetland mitigation. These wetland areas consist of 1.0 acre located in the Trap Range, south of the Sewage Treatment Plant and a 0.13 acre area located immediately west of the Sewage Treatment Plant.
- The regulatory drivers for wetland mitigation and natural resource restoration are separate. The Natural Resource Restoration Plan contains two proposed projects to meet wetland mitigation requirements and provides design considerations for both projects. Specific wetland mitigation designs will be developed for each wetland in conjunction with other restoration designs as appropriate (e.g., Wetland Mitigation Phase II and Northern Woodlot Restoration).
- Action: No Action.

3) Commenting Organization: OEPA Commentor: OFFO
 Section #: Pg. #: Line #: Code: C
 Original Comment #: 16

Comment: OEPA agrees that the excavation approach for the STP will be different from that for the Southern Waste Units. The excavation specifications will need to include the following: 1) All soil being removed must use a bulldozer to push to piles while being visually checked for prohibited items. 2) After the removal of the above WAC areas, real-time scanning is necessary to determine if the full extent of the above WAC material has been removed. 3) Sample for Tc-99 at the bottom of those areas. 4) In accordance with the SEP, Excavation Approach D, each layer will need to be surveyed for WAC attainment prior to excavating the next lift.

Response: As discussed with OEPA, the STP Excavation monitoring will be performed in accordance with SEP Approach D, with area specific implementation details based on the physical constraints of the area and safety concerns in the excavation. This monitoring approach concept is presented in the revised A1PII Supplemental Characterization Package and will be detailed in the STP Excavation Monitoring PSP. The specific concerns raised in the comment are addressed as follows:

- 1) The excavation will be visually monitored at all times. To the extent practical, and depending on the physical constraints of the work, a dozer may be used to push material in the STP. Based on experience in the Southern Waste Units, visual monitoring is sufficient for identifying prohibited items.
- 2) The above-WAC areas will either be vertically bounded prior to excavation or will be sampled after excavation of above-WAC material. Specifically, sampling will be performed after above-WAC digester sludge and above-WAC sludge cake are removed from the sludge drying bed area. The area of above-WAC surface soil around the trickling filters is already vertically bounded. The two rectangular areas on the north side of the STP area will either be sampled and vertically bounded prior to excavation or sampled after excavation and bounded before excavation is performed. A real-time scan will be performed at the bottom of above-WAC excavations.
- 3) As described above, above-WAC technetium-99 will either be bounded by physical sampling prior to excavation or immediately after excavation and prior to excavation of the next lift.
- 4) As described in the revised A1PII Supplemental Characterization Package, initial STP Excavation will be performed in lifts. The first lift will be 6 inches deep and consist of removal of known above-WAC material. After removal of this material, sampling will be performed in areas not previously bounded. The top of the next lift will also be scanned by real-time equipment. The next two lifts will be approximately 4 feet deep. The surface at the bottom of each of these lifts will also be scanned with real time equipment. After these three lifts are removed, the excavation is expected to be physically constrained to the point where scanning will not be feasible. Based on review of these conditions in the field (by DOE and regulators), the excavation is then anticipated to proceed to the design depth.

Action: The excavation monitoring concept will be presented in the revised A1PII Supplemental Characterization Package and will be detailed in the STP Excavation Monitoring PSP.

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4) Commenting Organization: OEPA Commentor: OFFO
Section #: Pg. #: Line #: Code: C
Original Comment #: 25

Comment: OEPA still disagrees that these Tc-99 areas are sufficiently characterized for depth delineation. The samples which bound the two areas bound the contamination *horizontally*, not *vertically*. Two locations on Figure 2-23 from the A1PII IRDP show contamination at depth. Given the known mobility of Tc-99 and the relatively high concentration (91.77 pCi/g) of one of the points, please provide justification why the contamination is not vertically bound.

Response: The two rectangular areas on the north side of the STP area will either be sampled and vertically bounded prior to excavation or sampled after excavation and bounded before lower excavation is performed.

Action: The revised A1PII Supplemental Characterization Package will present the above approach. Sampling is proposed to vertically bound the limits of above-WAC material in the two north rectangular areas of above-WAC technetium-99.

5) Commenting Organization: OEPA Commentor: OFFO
Section #: Pg. #: Line #: Code: C
Original Comment #: 29

Comment: It is unclear from the response what "discovery" was made regarding additional contaminants. The OU5 RI data provided sufficient data to establish a list of COCs for the area. Regardless, the response does not address the lack of data for other COCs within the gravel areas.

Response: Gravel under paved road surfaces is considered impacted material and is proposed to be placed in the OSDF; this material will be classified as Category 1 or Category 2 material depending on the soil/gravel ratio. The subject sampling was performed for WAC attainment. At the time this sampling was performed, the only WAC attainment COC was total uranium; since that time, technetium-99 has been identified as a WAC attainment COC in the area. However, because the technetium-99 is believed to have come from water in the STP, and because the subject gravel is below a paved surface, the gravel is unlikely to have been exposed to the water and associated technetium-99. Therefore, no additional sampling is necessary in this area.

Action: No Action.

6) Commenting Organization: OEPA Commentor: OFFO
Section #: Pg. #: Line #: Code: C
Original Comment #: 59

Comment: DOE's response to Comment #59 is unclear.

A) In the A1PII IP, there is no mention of the west drying bed *not* being constructed. As the reader, it is understood that the west bed was constructed or laid out, depending on the definition of *constructed*, next to the east bed but never operational.

- B) Prior to sludge being placed into the east sludge drying bed, the east bed was cleared of its' vegetation and debris. This material was placed into the west sludge drying bed (A1PII IP, page 2-36). According to the A1PII IP (see pages 2-36 & 2-37), it states that the material taken from the east bed and placed into the west bed is thought to be contaminated. In addition, it is Ohio EPA's belief, through field observation, that the material excavated from the east bed and placed into the west bed is potentially contaminated. However, the A1PII Supplemental Characterization Package does not address this issue. It appears to OEPA that the west bed was not fully characterized.
- C) The A1PII Supplemental Characterization Package shows only one sample location or data point in the west bed, which is below WAC for both Tc-99 and Total U. However, there is no mention whether this point was sampled before or after the east bed material was placed into the west bed. Please provide clarification and reasoning on the above.

Response: A), B), and C) This issue has been researched and is detailed in the Revised A1PII Supplemental Characterization Package.

Both sludge drying beds received the same waste material during operation and were collectively characterized as one HWMU. The west sludge drying bed was cleared of dried sludge cake prior to being taken out of service in 1976. The east sludge drying bed had approximately 35 yd³ of dried sludge cake remaining on the surface when it was taken out of service in 1992. Material disposition for both beds will proceed in the same manner. After removal of the digester sludge and filter fabric, the sludge cake and material with visible evidence of sludge cake will be excavated and placed in WMBs for placement in the SMTA. The sludge cake will be excavated based on visual observation and in accordance with the sampling and analysis results as described below.

Debris from the east sludge drying bed, including the vegetation, piping, concrete distribution boxes (which are currently in the western berm), and concrete support piers (which are currently in the eastern berm), will be visually inspected for "residue mass" to determine waste disposition. This will include material and debris located on the west bed. Generally, debris from the sludge drying beds will be disposed in the OSDF unless it has "residue mass" attached to it. If "residue mass" is attached to the debris, then it will either be cleaned to remove the mass or containerized in WMBs and disposed off site as RCRA-listed LLRW.

The berm and underlying soil will be sampled to verify there is no technetium-99 contamination. After removal of all sludge cake based on visual observation, a minimum of four representative samples in the location of the east and west sludge drying beds will be collected. The details for this sampling and analysis will be provided in a PSP.

Action: Details are presented in revised A1PII Supplemental Characterization Package.

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7) Commenting Organization: OEPA Commentor: OFFO
Section #: Pg. #: Line #: Code: C
Original Comment #: 70

Comment: Please provide additional detail on the next phase contractor. OEPA has not heard mention of it. Additional detail regarding the schedule for the Borrow area is necessary to make appropriate decisions regarding seeding.

Response: The STP Backfill Borrow Area has been removed from the STP Excavation contractor's scope of work. In addition, the Phase II North Entrance Road contractor may utilize material from the OSDF Borrow Area (including reject material) to backfill STP deep excavations. Therefore, under current plans, the STP Backfill Borrow Area will not be developed.

Action: DCN 20712-013 removed the STP Backfill Borrow Area from the STP Excavation scope. DOE will provide information regarding schedule of Phase II North Entrance Road and potential STP Backfill Borrow Area development as the project design is developed.

OHIO EPA COMMENTS ON THE AREA I, PHASE II SUPPLEMENTAL CHARACTERIZATION PACKAGE (DECEMBER 1998)

8) Commenting Organization: OEPA Commentor: OFFO
Section #: General Comment Pg. #: Line #: Code: C
Original Comment #:

Comment: The IRDP should be revised to address transfer of below WAC debris and soil to the OSDF. Any deviations from existing approved plans must be fully detailed in the revised IRDP.

Response: Generally, excavation, loading and hauling of below-WAC debris from the STP Excavation area will be in accordance with existing plans. Debris with visible residue that may be above WAC (such as digester sludge) will be considered above-WAC material. Debris without visible residue will be considered WAC compliant material. Debris will be manifested and handled as Category 2 material.

DCN-014 was prepared to incorporate a "clean" haul route from the STP to OSDF Cell 2. The concept for this DCN has been discussed with the OEPA on January 26 and 27, and February 2, 1999. The performance criteria for this DCN have been developed and approved by FDF radiological, engineering, construction and other personnel. The implementation details will be developed by the contractor and must be approved by FDF. A sketch of the proposed haul route and ramp that will be used to implement this approach was presented and approved by OEPA on February 9, 1999.

Action: A summary of all DCNs is being included in this submittal. The hauling approach is summarized in the revised Supplemental Characterization Package.

Action: Text will be revised to indicate the area is northeast of the digester building.

1998

13) Commenting Organization: OEPA Commentor: OFFO
Section #: 3.0 Pg. #: 3-1 Line #: 3-4 Code: C

Original Comment #:

Comment: According to A1PII IP (page 2-23), the reader is lead to believe that the west bed was constructed but never operated. This also is presented in several other sections of A1PII IP. Please clarify.

Response: Current research confirmed that the west bed was constructed in the early to mid 1950's and operated until it was taken out of service in 1976.

Action: See Action for OEPA Comment No. 2.

14) Commenting Organization: OEPA Commentor: OFFO
Section #: 3.3 Pg. #: 3-3 Line #: Code: C

Original Comment #:

Comment: The approach taken in this section appears to be incomplete. See previous OEPA comment on DOE's Response to Comments describing excavation and scanning approach.

Response: The above-WAC sludge cake was moved from the east to the west sludge drying bed and is now located in the west berm. Excavation of this above-WAC sludge cake will be based on visual monitoring, real-time scanning, and physical sampling. Initially, the above-WAC digester sludge will be determined by visual observation; then, the area will then be scanned using real-time equipment. After the above-WAC sludge is removed, physical samples will be collected and analyzed for both technetium-99 and uranium. See Response to OEPA Comment No. 13.

Action: More detail on the handling and management of above-WAC sludge cake is provided in the revised A1PII Supplemental Characterization Package and in DCNs to the STP Excavation design package. See Action for OEPA Comment No. 13.

15) Commenting Organization: OEPA Commentor: OFFO
Section #: Figure 1-1 Pg. #: Line #: Code: C

Original Comment #:

Comment: This figure shows several areas that appear to be within A1PII, northwest of the STP, which show contamination above the FRL for uranium, yet are not being excavated. Please clarify.

Response: The two above FRL sampling locations are within Sector 2 and under a gravel layer within the OSDF contractor support area. The contractor is scheduled to move out of this area in the next few months. At that time, sampling and/or monitoring will be performed to bound the limit of the above-FRL material. This above-FRL material will be removed and hauled to the OSDF before September 30, 1999.

Action: The precertification/certification approach is summarized in the revised A1PII Supplemental Characterization Package and the sampling effort will be detailed in a future PSP.

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16) Commenting Organization: OEPA
Section #: Figure 1-3 Pg. #:
Original Comment #:

Line #:

Commentor: OFFO
Code: C

Comment: Figure 2-23 from the AIIPI IRDP (September 1998) shows Tc-99 contamination in the above WAC concentration of 228.00 pCi/g at the surface, as well as at depth, southwest of the South Trickling Filter. Figure 1-3 does not show this area to be above WAC for Tc-99. Please clarify.

Response: During the RI/FS, three samples from the STP area were found to contain above-FRL technetium-99 concentrations. The sample locations are shown on Figure 2-21 in the draft Implementation Plan. These samples included a point west of the North Trickling Filter, one southwest of the South Trickling Filter (the subject point), and one in the sediment in Manhole 175. During the pre-design investigation, samples were collected to confirm these data. Samples at the north point verified the validity of these samples and triggered additional sampling in the area which eventually produced the above-WAC limits around both trickling filters now shown in the design. However, sampling at the location of the hit southwest of the South Trickling Filter (with a concentration of 228 pCi/g) and in the general area did not detect any above-WAC technetium-99 in the area. Therefore, these RI/FS data were not considered valid hits. The third RI/FS sampling point with above-FRL technetium-99 concentrations (sediment in Manhole 175) was the basis for determining that the sediment in the bottom of the manhole is above-WAC technetium-99 material.

Action: No Action.

17) Commenting Organization: OEPA
Section #: Figure 1-7 Pg. #:
Original Comment #:

Line #:

Commentor: OFFO
Code: C

Comment: Under Section A to A', sample 1441 shows an interval where the result is over the 20 mg/kg FRL. According to the contour lines provided in Figure 1-6, STP Deep Excavation Plans, this above FRL location is not planned to be excavated. Please revise excavation plans to include all sample locations above FRL.

Response: Agreed.

Action: Figures 1-5 and 1-6 will be revised to show excavation of all material where sampling indicated the Uranium concentrations exceeded the FRL. This excavation limit will also be incorporated into the design documents by DCN.

18) Commenting Organization: OEPA
Section #: Figure 1-7 Pg. #:
Original Comment #:

Line #:

Commentor: OFFO
Code: C

Comment: Cross section C to C' still shows the digester as having a flat bottom, not a conical one. Please correct.

Response: Noted.

Action: Figure 1-7 will be revised to show the digester as having a conical bottom.



