



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Remediation, Oak Ridge Office
761 Emory Valley Road
Oak Ridge, Tennessee 37830

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COUNTY MAYOR'S OFFICE

May 28, 2025

Mr. Roger Petrie
Federal Facility Agreement Manager
Oak Ridge Office of Environmental Management
U.S. Department of Energy
Post Office Box 2001
Oak Ridge, Tennessee 37831

Dear Mr. Petrie

RE: Phased Construction Completion Report for Exposure Unit Z2-16 in Zone 2, East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2984&D1)

The Tennessee Department of Environment and Conservation (TDEC) Division of Remediation, Oak Ridge Office (DoR-OR) is in receipt of the U.S. Department of Energy (DOE) letter dated March 3, 2025, transmitting the above referenced document. DoR-OR received the transmittal the same day. TDEC has completed a review of the document pursuant to the Federal Facility Agreement (FFA) for the Oak Ridge Reservation and offers the following comments:

General Comments

1. TDEC understands that DOE and the U.S. Environmental Protection Agency (EPA) continue discussions to resolve EPA comments on the Zone 2 Record of Decision (ROD) Explanation of Significant Differences (ESD) for the K-1064 Area in Exposure Unit (EU) Z2-16. What impacts, if any, will the outcome of the discussions have on the Phased Construction Completion Report (PCCR)? TDEC requests that DOE submit a red-line-strike-out draft D2 version of the PCCR to facilitate the review/comment process.
2. The PCCR lacks specific information on what is being deferred to the future East Tennessee Technology Park (ETTP) Main Plant Area (MPA) Final Groundwater ROD. The Work Plan/Technical Memorandum (WP/TM) for Z2-16 identified a remedial action (RA) within the security fence area driven by soil contamination that was a

threat to groundwater. It is known that DOE did not complete the RA due to nuclear safety concerns, but little information to support deferral is provided in the document. The PCCR should include detailed text and a figure that illustrates the known areas of contamination that will be addressed under the future ETTP MPA Final Groundwater ROD. Please revise the PCCR to include a section that clearly explains what is being deferred. This section should include text discussing the sample locations (with a map) and known contaminants, the location of the incomplete RA within the security fenced area, and areas needing further characterization and evaluation as depicted in Figure 3 of the Z2-16 ESD.

3. One of the significant differences identified in the Z2-16 ESD is the addition of engineering controls to prevent exposures to buried materials and prevent uncontrolled releases of the material to Poplar Creek. The PCCR does not include a discussion of these engineering controls. Please revise the document to include text regarding the engineering controls.

Specific Comments

1. **Page ES-1, first bullet list**

Please state as a bullet "characterization and remedial evaluation of soil as a threat to groundwater is deferred to the future ETTP Main Plant Area Final Groundwater ROD (or RODs)", or similar wording. Please include globally (e.g., Section 1).

2. **Page ES-1, first bullet list, third bullet**

The bullet suggests that the evaluation for unrestricted industrial use to a depth of 10 ft and for sources of groundwater contamination was conducted across the entirety of EU Z2-16 (23.3 acres). Please clarify if the evaluation for unrestricted industrial use to a depth of 10 ft was conducted only for 7.5 of the 23.3 acres in which the no further action (NFA) is recommended. Please revise globally (e.g., Section 1).

3. **Page ES-1, first bullet list, fourth bullet**

For clarity, please separate the bullet into two separate bullets. The first bullet should document the NFA recommendation for the 7.5-acre area, and the second bullet should document the change in land use and additional land use controls (LUCs) identified in the ESD for 15.8 acres in the K-1064 area. Please revise globally (e.g., Section 1).

4. **Page 9, Section 3, first paragraph**
Chapter 2 does not discuss the division of Z2-16 into two separate areas, as stated. Please address this discrepancy and include this discussion in the PCCR with a figure illustrating the locations of these two areas.
5. **Page 25, Figure 6**
Please label the two excavation boundaries as "Northwest Hotspot RA" and "K-1064 Salvage Material Yard RA".
6. **Page 26, Figure 7**
Please label the excavation boundaries as "K-1064-H Area RA" and "K-1064-M North Trash Slope RA".
7. **Page 39, Section 5.1.4, second paragraph**
The RA area outside of the security fence extended deeper than anticipated and should have extended farther west to within the fenced area. Please include text discussing why the original characterization effort did not sufficiently delineate impacts to soil in this area.
8. **Page 41, Section 5.2.2**
The K-1064 Salvage Material Yard RA included excavation due to arsenic and chromium groundwater (GW) soil screening level (SSL) exceedances. Please explain why confirmation samples were not submitted for metal analysis to show arsenic and chromium in remaining soil do not exceed their respective GW SSLs.
9. **Page 45, Section 5.2.4**
Please add text discussing the uncertainty about the amount of soil that is a threat to groundwater in the K-1064-M North Trash Slope area. The added text should identify where further soil characterization is needed.
10. **Page 45, Section 5.2.4, first paragraph**
Please identify in the text and in Figure 15 which floor and wall samples were not collected.
11. **Page 59, Figure 21**
See comment #5.
12. **Page 60, Figure 22**
See comment #6.

13. **Page 61, Section 5.4.2, third paragraph**

The number of samples (n=40) and sample locations (n=17) stated in the paragraph do not seem to match the numbers provided in Table 7. Please address these discrepancies.

14. **Page 61, Section 5.4.2, second, fifth, and sixth bullets**

The numbers of confirmation samples for total polychlorinated biphenyls (PCBs), U-235, and U-238 stated in the bullets do not seem to match the numbers provided in Table 7. Please address these discrepancies.

15. **Page 74, Section 5.4.3, last paragraph, last sentence**

Please revise the sentence to state "*as previously discussed, further characterization and evaluation of groundwater contaminant sources is recommended for deferral*".

Additional investigation is necessary to determine the extent of soil that may be a threat to groundwater.

16. **Page 74, Section 5.4.4**

Please clarify if the risk evaluation presented is only for the 7.5 acres for which there is an NFA recommendation. Since not all the RAs were completed as planned, and confirmation samples from the western boundary of the K-1064-M North Trash Slope RA suggest Max Remediation Level (RL) exceedances may continue within the security fenced area, it does not seem appropriate to complete a risk evaluation for the entirety of EU Z2-16.

17. **Page 79, Section 6**

The extent of volatile organic compound (VOC) contaminated groundwater has not been fully delineated within EU Z2-16, and it is anticipated that additional monitoring wells will be installed as part of the MPA groundwater remedial investigation. This uncertainty coupled with the known VOC impacted soil that remains in the subsurface does not support the statement that VI controls are not necessary. The VI pathway should be considered potentially complete and should be further evaluated under the future final groundwater ROD(s). Please revise the conclusion to state the VI pathway may be complete and provide the necessary recommendations.

This letter meets the FFA review cycle protocol of 90 days for the subject document. TDEC looks forward to working with DOE to ensure timely resolution of these comments. Questions or comments concerning the contents of this letter should be directed to Randy Hoffmeister at the above address or by phone at (865) 985-2513.

Sincerely

Randy Young

Digitally signed by Randy
Young
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Randy C. Young
FFA Project Manager
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