Comment 1. Appendix D – ARARs. DOE has removed text from the D3 that appears to provide a meaningful context for how the state's water quality standards are identified, apply to discharges and protect water quality as required by the CWA and TN statute.[1] Unless DOE believes that the text is incorrect, please restore this and other language to the introductory discussion in D3 FFS Appendix D. Below is one example of such informative and helpful text that was in the D2 but removed from the D3. Please restore this and other deleted text.

> Surface water bodies in Tennessee are assigned use classifications by the Tennessee Water Quality Control Board. Those use classifications are not assigned based on surrounding land uses, and may have no relationship to how the surface water is currently being used. Tennessee surface water use classifications are listed in TDEC 0400-40-04. Bear Creek, near the EMWMF and the proposed EMDF, is classified by the state for Fish and Aquatic Life (FAL), Recreation (REC), Irrigation (IRR), and Livestock Watering and Wildlife (LWW) uses. All other named and unnamed surface waters in the Clinch River Basin, with the exception of wet weather conveyances, which have not been specifically treated, are classified for FAL, REC, LWW, and IRR uses per TDEC 0400-40-04-.09. Each of the use classifications has water quality standards set under TDEC 0400-40-03, although only the FAL and REC uses have specific numeric AWQC set for particular compounds. The REC AWQC are human health criteria and the FAL criteria are set for the protection of aquatic life. Although all of these criteria, both numeric and narrative, are all potential ARARs for any effluent discharges to Bear Creek, the specific criteria that would be applied and enforced as final limits at a point source outfall, should the selected remedy include an on-site water treatment facility at the EMWMF/EMDF, would be negotiated and set in the final decision document for this action and could include any subset of these criteria, as determined by the regulatory authorities. A preliminary subset of key contaminants of concern in the leachate/contact water has been identified and agreed to by the Federal Facility Agreement (FFA) parties; this subset has been used during the development and screening of remedial alternatives under this FFS. AWQC for this subset of contaminants of concern are listed in Table D.2. Other narrative water quality standards are included in Table D.1 as potential chemical-specific ARARs.
>
> Per TDEC 0400-40-05-.10(4), effluent discharges are required to meet the anti-degradation requirements of TDEC 0400-40-03-.06 to ensure that new or increased discharges do not cause measurable degradation of any parameter that is "unavailable." Unavailable parameters exist where water quality is at, or fails to meet, the levels specified as water quality criteria in TDEC 0400-40-03-.03.

Comment 2. Appendix D, Table D-1, pages D-5 through D-7. The table does not identify the state narrative water quality criteria for Recreation use as relevant and appropriate to radionuclides. Please add the following notation to the "Prerequisite" column, for all the narrative water quality criteria: "Release of wastewater or effluents into surface water – **relevant and appropriate** as instream criteria for radionuclides." As with pollutants, this notation can be added in the first row only (but applies to all the similar citations below). In addition, please add the following note for the applicable requirement, "NOTE: under TDEC

[1] Water Quality Control Act of 1977, TCA 69-3 Part 1.

0400-40-03-.05 INTERPRETATION OF CRITERIA, mixing zones shall not apply to the discharge of bioaccumulative pollutants to waters of the state where the risk-based factors in Rule 0400-40-03-.03(4)(l) are exceeded for the pollutant group."

Comment 3. Appendix K, Section 1.4.1 PRG Development. The text describes a use scenario and PRG inputs that are inconsistent with a methodology used for calculating the fish tissue and surface water PRGs. The PRGs are based on the state use classification for Bear Creek (i.e. recreational and other) and the fish consumption rate in the TN WQS (17.5 g/d). Yet the text implies something different. For example, the first paragraph ends with…" This scenario was used to develop the PRGs for surface water and fish" and (3rd paragraph) "…the working group established a conservative estimate for input into the PRG calculator…" The text should be updated to reflect the way the PRGs were calculated.

1. **Executive Summary, p. x**. In the second full paragraph, first bullet, "The selection and approval of a landfill wastewater management alternative was originally intended to be included in the proposed plan. However, due to the length of time for resolution of the formal dispute on the D2 FFS, the FFA parties agreed to issue the EMDF Proposed Plan for public comment in September 2018 without a recommendation for landfill wastewater management." Please add a new third sentence in lieu of the existing third sentence (which should be deleted). This new sentence is intended to describe the public comment taken on the *Water Quality Protection for Bear Creek* Fact Sheet (and since the D3 FFS was written prior to the decision to issue Fact Sheets for public comment): "In May, 2022, DOE issued a *Water Quality Protection for Bear Creek* Fact Sheet for public comment, of which significant comments and responses to those comments will be documented in the Responsiveness Summary of the ROD."

2. **Section 1.3, p. 3.** New text clarifies that Bear Creek is on the CWA 303(d) list for mercury, cadmium, PCBs, and nutrients (nitrates and nitrites). Please note that as unavailable parameters as described under TDEC 0400-40-03-.06(2), limits for these parameters must be developed consistent with this regulation. First, while the FFA parties have developed a process for addressing the mercury in the Bear Creek Valley watershed, the "Mercury Management Approach" (MMA) is not addressed in the FFS, yet DOE proposes it in the ROD. The FFS must be updated to describe the MMA component of the remedy, otherwise there is nothing in the Administrative Record to support selecting this MMA. In addition, the FFS and ROD should also address the other parameters besides mercury, including developing a level in the waste water that will not cause "measurable degradation" or add "additional loadings" (the latter, only if bioaccumulative).

3. **Section 1.6, p. 10.** New text was added to the last paragraph that states that the ROD for EMDF describes how landfill waste water will be treated prior to release. In this section and throughout the ROD, please remove references to the ROD, since under CERCLA, the FFS is the document that provides the basis for the decisions made in the ROD, not the other way

round.[2] Please revise the text to describe how the waste water will be treated prior to release, without reference to or reliance upon the ROD.

4. **Appendix K, Section K.1.3.1.2, p. K. 1-14.** Last paragraph, suggested edit: "Instead, the default fish ingestion rate (***TN WQS***) was ~~agreed to be~~ used."

5. Appendix K, K.1.4.2, p. K. 1-17. This section (or elsewhere in the FFS) also does not explain the use of 17.5 g/day as the fish consumption rate (although in section K.1.4.4, and perhaps elsewhere, the text refers to this as a "default" FCR). The EPA is aware that this is the FCR that TN used to calculate its AWQCs, based on the current Tennessee Fish Consumption Rate at the time the TN WQS were established.,

6. Appendix K, K.1.4.4, p. K. 1-29. Suggested edit: "Site-specific, protective radiological effluent limits for discharges from EMWMF and EMDF ***will be based on the fish tissue and surface water PRGs***, and in accordance with applicable or relevant and appropriate requirements and CERCLA."

7. Section 3.3.3. The proposed location of the EMDF, 7c, is erroneously referred to as West Bear Creek, rather than Central Bear Creek. This occurs at least twice in the text.

8. Section 3.3.3. The terminology used in multiple places in this section "screening level discharge limit" should be updated to be consistent with Appendix K. "Preliminary Remediation Goals for fish tissue and surface water", or "water quality-based PRGs for fish tissue and surface water," are recommended and consistent with Appendix K.

9. Please ensure that the final WW-FFS Appendix E is consistent with the Mercury Management approach developed by the FFA parties.

11. A previously issued EPA comment (email on June 28th) on Appendix K (second bulleted item) beginning with "Section K .1.3.1.2" should be ignored.

[2] 55 Fed. Reg. 8712, March 8, 1990. ("The primary objective of the FS is to ensure that appropriate remedial alternatives are developed and evaluated such that relevant information concerning the waste management options can be presented to a decision-maker and an appropriate remedy selected.")

From:	Froede, Carl
To:	Petrie, Roger; Randy Young; Urquhart-Foster, Samantha; Mayton, Dennis (OREM); Brad Stephenson; Dana Casey; Kahalealii Ishikawa; Primrose, Annette L (ACP)
Subject:	[EXTERNAL] EPA final comments on the D4 WW-FFS
Date:	Wednesday, July 13, 2022 14:10:29
Attachments:	07-13-22 -- EPA Final Comments on WW-FFS.docx
Importance:	High

Good afternoon,

The final set of EPA comments on the D4 WW-FFS are attached. Other comments on this document have previously been provided to DOE. This completes the EPA draft review of the D4 WW-FFS.

Please email me if you have any questions.

Thanks,

Carl