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

October 16, 2023

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

TDEC Approval: Remedial Design Work Plan/Remedial Action Work Plan for the Groundwater Field Demonstration at the Environmental Management Disposal Facility, Oak Ridge, Tennessee (DOE/OR/01-2948&D2)

Dear Mr. Petrie

The Tennessee Department of Environment and Conservation (TDEC), Division of Remediation - Oak Ridge Office, received the subject plan on September 25, 2023. TDEC reviewed the document in accordance with the *Federal Facility Agreement (FFA) for the Oak Ridge Reservation (ORR)*. TDEC approves the plan based on resolution of state concerns with the draft (D1) document.

TDEC supports the U.S. Department of Energy's (DOE) efforts to implement this work, which is vital for complying with the Record of Decision (ROD) for the Environmental Management Disposal Facility (EMDF). In conjunction with this approval, TDEC highlights the following considerations to foster continued progress on this task and other EMDF construction activities.

Schedule & Data Access
In accordance with the EMDF ROD, the Groundwater Field Demonstration (GWFD) results will determine the seasonal high water table (SHWT) that will control the final design elevation of the geologic buffer in the knoll area. The results will be reported in Technical Memoranda (TMs) that are not primary FFA documents subject to review and approval by TDEC. Currently, a FFA Remedial Design Report (RDR) scheduled in 2026 is the planned opportunity for regulatory review and approval of interpretations generated from this GWFD.

TDEC recognizes timely completion of this effort is necessary to maintain the landfill construction schedule. As noted in TDEC's June 23, 2023, letter, deferring formal regulatory review to the RDR risks schedule impacts with less time to recover. Positively, in response to the TDEC comment letter, DOE committed to providing monitoring results as they become available

(Response 52 to TDEC's letter). Avoiding potential delays will require prompt and frequent delivery of GWFD data and close collaboration among the FFA parties in reviewing results and setting the SHWT.

Alternatively, to date DOE has declined to provide readily available preliminary design data in response to TDEC requests. TDEC requested geographic information system (GIS) files during the FFA project team meeting on February 1, 2023. After reiterating the request during subsequent monthly meetings, in email correspondence, and in TDEC's June 23, 2023, letter, DOE provided files on July 17, 2023. Unfortunately, those files contain few or no pertinent attributes, such as elevations of surfaces relevant to the GWFD and landfill design.

Therefore, TDEC requested design drawings in computer-aided design (CAD) format, such as those presented graphically in Appendix C of the D1 RDWP/RAWP (DOE/OR/01-2948&D1). On September 27, 2023, DOE denied TDEC's request via email, stating, "Consistent with past practices, we will provide readily available GIS files and the graphics as requested to maintain consistency among all parties."

Section XXIX, Access/Data/Document Availability of the FFA states:

> Upon request by EPA or TDEC, the DOE shall submit to EPA and TDEC copies of records, and other documents, including sampling and monitoring data, that are relevant to oversight activities.

In accordance with this agreement and to support timely regulatory reviews, TDEC repeats the request for records relevant to the planned GWFD, including preliminary landfill designs. The request is for readily available electronic files in usable formats, including but not limited to dwg, dxf, dgn, gdb, shp, and shx. TDEC is not asking for the creation of new files, nor is TDEC asking for graphics in formats such as PDF.

Species Listed as Threatened, Endangered, or In Need of Management

The EMDF ROD (Table A.2, p. A-22) requires compliance with T.C.A. § 70-8-104. The statute states, "it is unlawful…to take [or] attempt to take…nongame wildlife." T.C.A. § 70-8-103 defines nongame species as "any wild mammal…or other wildlife not ordinarily taken for sport, fur, food or other commercial use" and states "take means to harass, hunt, capture, or kill, or to attempt to harass, hunt, capture, or kill wildlife."

Unlike the federal Endangered Species Act, which provides more protection for *threatened* or *endangered* species than those designated as *species of special concern*, T.C.A. § 70-8-104 provides the same protections for animal species listed as *in need of management* as those listed as *threatened* or *endangered*. Therefore, to ensure compliance with T.C.A. § 70-8-104, TDEC again asserts that it would be prudent to conduct surveys sufficient to identify *all* protected species for actions where state-listed species may be present so take can be avoided. Additionally, DOE should consult with the Tennessee Wildlife Resources Agency (TWRA) early in the process to manage ecological risks in a protective manner.

TDEC commends DOE for recent successes in protecting sensitive species. Achievements include protecting endangered northern long eared bats by scheduling tree removal to avoid impacting maternity roosts. Another success involved a second effort to identify, and ultimately relocate, a significant breeding population of four-toed salamanders. The state lists this species as *in need of management*, and their relocation will protect them and their offspring from construction impacts. TDEC looks forward to assessments of this and other mitigation efforts in the appropriate FFA documents.

Throughout the past five years leading up to the GWFD, TDEC has encouraged DOE to complete similar additional surveys for rare (i.e., small population sizes) state or federally listed small mammal and herptile species that may also warrant protective management before construction begins at the EMDF site. During review of the D1 GWFD plan earlier this year, TDEC reiterated the recommendation, providing a reminder while there was still time to close the data gap without delaying the project. During a series of email and verbal conversations, it became clear TDEC and DOE have different understandings of the potential for such species to be present on the site and the adequacy of surveys documented in 2018.

TDEC agrees the small mammal communities at the EMDF site are dominated by *Peromyscus* species, as observed by DOE, but TDEC does not agree the sampling effort was sufficient to effectively characterize the small mammal community. The National Ecological Observatory Network (NEON) records other relatively common species, such as *Blarina brevicauda*, in nearby areas with similar habitat compositions. Therefore, they likely exist at the EMDF site but are not represented in the data. This suggests the original assessment was insufficient.

If DOE's survey missed common species, there is a higher possibility it also missed any uncommon or rare species that may be present. For example, NEON identified a *Sorex longirostris* shrew at a nearby site with similar habitat composition. That monitoring effort involved approximately 25 times the number of trap nights described in the EMDF survey.

As a lesson learned from this experience, TDEC recommends DOE consult with TWRA and conduct more thorough surveys for all sensitive species that may live in areas where future actions are planned. The intent of this recommendation is to protect ecological resources and comply with all ROD requirements, including T.C.A. § 70-8-104.

Seasonal High Water Table (SHWT) Determination

In the revised (D2) document, Table 8 presents values under the heading *Seasonal high wet weather elevation February 2019 (ft amsl)* [feet above mean sea level]. In response to a TDEC question, DOE stated the values are averages of water levels measured during February 2019.

Averages are suitable for summarizing site characterization information. However, average water levels, measured during February 2019 or any other month, are not directly relevant to the determination of the SHWT or the GWFD. Therefore, DOE should not cite average water levels in forthcoming documents related to the GWFD, including the TMs and the RDR.

As defined in the ROD, the SHWT determined during the GWFD will be *the potentiometric surface based on the 80th percentile of water levels in the month with the maximum monthly median during the evaluation period (this may be thought of as the wettest month, where wettest refers to highest groundwater level and not necessarily the month with the most precipitation).* The wettest month—i.e., the month with the maximum monthly median water level—may differ among piezometers (wells). It may occur during February 2025 at one well and April 2026 at another. Once the wettest month has been determined for each well, the SHWT value for that well will be calculated as the 80th percentile of water levels in that month. Then, the potentiometric surface will be established based on the SHWT values and linear interpolation, along with any adjustments the FFA parties may agree are necessary due to a demonstration period that is not representative of historical rainfall (significantly wetter or drier).

Questions or clarification requests concerning the contents of this letter should be directed to Brad Stephenson at the above address, by phone at 865-352-1235, or by e-mail at brad.stephenson@tn.gov.

Sincerely

Randy C Young

Digitally signed by Randy C Young
Date: 2023.10.16 10:52:25 -04'00'

Randy C. Young
FFA Project Manager
Division of Remediation – Oak Ridge Office

ec: Dennis Mayton, DOE
Brian Henry, DOE
Sam Scheffler, DOE
Carl Froede, EPA
John Sayer, EPA
Samantha Urquhart- Foster, EPA
Sid Garland, UCOR
Tanya Salamacha, UCOR
Colby Morgan, TDEC
Ethan Sweet, TDEC
OREM Mailroom
ORSSAB

xc: Wade Creswell, ORRCA
Amanda Daugherty, ORRCA
Amy Fitzgerald, ORRCA
Terry Frank, ORRCA