

IN THE MATTER OF: OAK RIDGE RESERVATION

FOR THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

DAVID W. SALYERS, P.E.

Commissioner

Tennessee Department of Environment and Conservation

William R. Snodgrass, Tennessee Tower, 2nd Floor

312 Rosa L. Parks Ave

Nashville, TN 37243

FOR THE UNITED STATES DEPARTMENT OF ENERGY

JOHN A. MULLIS II

Manager

Oak Ridge Department of Environmental Management

200 Administration Rd

Oak Ridge, TN 37830

ADMINISTRATIVE ORDER ON CONSENT

I. JURISDICTION AND PARTIES

1. Pursuant to the authority delegated to the Commissioner of the Tennessee Department of Environment and Conservation ("TDEC") in 42 United States Code ("U.S.C.") § 9607(f)(1), by the February 28, 2023, designation by the Governor of the State of Tennessee, TDEC, as the State Trustee for natural resources, pursuant to § 107(f)(2)(B) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, ("CERCLA"), and § 1006(b)(3) of the Oil Pollution Act of 1990, as amended ("OPA"), 33 U.S.C. § 2706(b)(3), and the United States Department of Energy ("DOE") (together, the "Parties"), enter into this Administrative Order on Consent (the "Order").
2. This Order shall apply to and be binding upon DOE and DOE's successors in interest liable under Tennessee or federal law.

3. DOE enters this Order pursuant to the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2011, et. seq., and the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, 117 P.L. 263, 2022 Enacted H.R. 7776, 117 Enacted H.R. 7776, 136 Stat. 2395.

II. DEFINITIONS

4. “DOE” means the United States Department of Energy and any predecessor or successor agency or department of DOE, including any past or present official, employee, agent, or contractor of DOE (and any past or present official, officer, director, employee, agent, or subcontractor of such contractor).
5. “Effective Date” means the date on which the last Party executes this Order.
6. “FWS” means United States Fish and Wildlife Service, on behalf of the Department of the Interior.
7. “Natural Resources” shall have the meaning provided in CERCLA Section 101(16). 42 U.S.C. § 9601(16).
8. “Natural Resource Damages” or “NRD” means compensation for injury to, destruction of, or a loss or impairment of (collectively “impacts”), Natural Resources resulting from or relating to the historic release of hazardous substances into, or which have migrated from, the ORR. “Natural Resource Damages” or “NRD” shall not mean compensation for any injuries, destruction, loss, or impairment of Natural Resources described in Paragraph 32 of this Order titled Reservation of Rights.
9. “ORR” means the Oak Ridge Reservation lands DOE owns and formerly owned and managed within and around Anderson County and Roane County, Tennessee.
10. “Parties” means DOE and TDEC.
11. “TDEC” means the Tennessee Department of Environment and Conservation.

12. "Trustee Council" means the Trustee Council comprised of TDEC, DOE, FWS and TVA, established in or about January 1995 through a Memorandum of Understanding, to address natural resource damages resulting from the release or threatened release of hazardous substances emanating from the ORR.
13. "TVA" means the Tennessee Valley Authority.

III. FINDINGS

14. The ORR is bordered by the City of Oak Ridge to the north and east and by the Clinch River and Melton Hill Lake on the south and west. Historic activities at the ORR resulted in the release of hazardous substances including radionuclides, metals, and organic contaminants, leading to the contamination of natural resources both at the ORR and in the surrounding environment.
15. The ORR was designated a Superfund Site by the United States Environmental Protection Agency ("EPA") in 1989, leading to ongoing cleanup activity.
16. In or about 1991, DOE entered into a Federal Facilities Agreement ("FFA") with EPA and TDEC under CERCLA that sets forth, among other things, the actions to be taken by DOE to address the releases or threatened releases of hazardous substances at the ORR.
17. In addition to its obligations under the FFA, DOE maintains and improves the ORR to preserve and enhance the area's environmental resources and provide nature and recreational opportunities. DOE's maintenance of the ORR includes, but is not limited to:
- a. Mowing and maintaining grassy areas on the ORR;
 - b. Contracting with the Tennessee Wildlife Resources Agency (TWRA) to conduct controlled burns to promote the growth of native plant species;
 - c. Planting native species after completing remediation work;

- d. Re-contouring areas to promote efficient drainage and allow for improved groundwater management;
 - e. Re-grading the Powerhouse area to make the area more visually appealing to the public;
 - f. Working with TWRA to allow public hunting on the ORR to control the deer and coyote populations;
 - g. Organizing and conducting public nature walks on the Oak Ridge National Lab campus;
 - h. Choosing to preserve natural features which cost DOE additional funds to maintain, to promote environmental resources on the ORR, such as preserving ponds as bird sanctuaries; and
 - i. Allowing the public to create trails in approved areas on the ORR.
18. TDEC and DOE have been participating with the FWS and TVA on a Trustee Council to address natural resource damages resulting from the release or threatened release of hazardous substances emanating from the ORR.
19. The Trustee Council approached the NRDA for the ORR in two phases. The first phase focused on the impacts of contamination to resources in Watts Bar Reservoir (this includes Watts Bar Reservoir downstream of its confluence with the Clinch River to the Watts Bar Dam and the Tennessee River arm upstream to the Fort Loudoun Dam). Natural resource service losses due to the presence of contamination include the reduction of ecological services in aquatic habitats (e.g., reproductive impairment in fish), as well as a direct reduction of human use services (e.g., fishing).

20. As compensation for natural resource damages sustained in Watts Bar Reservoir, in 2009 DOE and the State of Tennessee, in agreement with the other natural resource Trustees, established the Black Oak Ridge Conservation Easement ("BORCE"). BORCE is approximately 3,000 acres of forested upland ridge that runs southwest-northeast just west of the ORR. BORCE includes multiple upland habitat types and supports a variety of threatened and endangered species. Poplar Creek flows through the BORCE, and wetlands exist along the southern edge of the BORCE area. In addition to ecological services, BORCE benefits groundwater resources and supports a suite of human use activities, such as trail use recreation and hunting. The DOE also provided funding to design and implement projects that will improve existing recreational fishing by updating existing access sites and creating new fishing opportunities for the public.
21. The second phase of the ORR NRDA focused on terrestrial habitat within the ORR, the aquatic habitat of the adjacent Clinch River, the floodplain and aquatic habitat of several Clinch River tributaries, and the groundwater beneath and flowing off-site from ORR. Natural resources using these areas include a variety of fish, birds, mammals, and sediment-dwelling invertebrates. Measured and modeled data on contaminant levels in various resources exceeded site-specific and literature-based adverse effects thresholds. The existence of a contaminant driven fish consumption advisory on the Clinch River and some of its tributaries that flow through the ORR also indicates injuries to natural resources. The Trustees determined that these injuries resulted in losses in ecological (aquatic and terrestrial), groundwater, and recreational (fishing and hunting) services.

IV. General Provisions

22. **Objective of the Parties.** The objectives of the parties are to resolve all known impacts to natural resources at the ORR from DOE's historic releases of hazardous substances through the creation of the ORR Fund, which will fund specific natural resource restoration projects,

provide restorative benefits to the natural resources of the ORR, and enhance ongoing efforts at the Site in a manner that provides restorative benefits to the natural resources injured at the Site from historic operations. The Parties agree that the creation of the ORR Fund and total disbursement of the ORR Fund for eligible restoration projects represents sufficient natural resource restoration so that TDEC commits not to refer a NRD premised action to the Tennessee Attorney General (“TN AG”), except those actions reserved in Paragraph 32 of this Order titled Reservation of Rights.

23. **Covenant by DOE.** As the landowner, DOE agrees to allow eligible entities who obtain money from the ORR Fund to undertake projects on the ORR. DOE agrees to provide support for these projects, including access rights for entities conducting such projects and/or Trustee Council representatives overseeing such projects, to the extent that these projects do not unreasonably interfere with DOE’s obligations under and applicable State and Federal laws, regulations, and agreements.

24. **Eligible ORR Fund Projects.** Projects eligible for funding by the ORR Fund will be limited to the following categories: habitat creation, habitat preservation, groundwater, and recreation.

Examples of eligible projects for each category may include:

| Category | Example Projects |
|-------------------------------------|---|
| Habitat Creation | <ul style="list-style-type: none">• An abandoned parking lot cleared, graded, and planted with native vegetation• A previously filled wetland excavated, re-graded, hydrologically reconnected to surface water or other wetlands, and replanted with native wetland vegetation• Habitat elements designed and implemented to benefit sensitive resources |
| Habitat Restoration/ Enhancement | <ul style="list-style-type: none">• Invasive species removal and restoration of native plant communities |

| | |
|----------------------|---|
| | <ul style="list-style-type: none"> • Restoring land adjacent to natural habitats to increase habitat connectivity • Increasing habitat complexity by placing woody structures, nest boxes, or turtle basking logs • Installing water control structures and removing drain tiles to restore natural hydrology • Establishing new or expanding existing riparian vegetation corridors |
| Habitat Preservation | <ul style="list-style-type: none"> • Land acquisition • Land donations • Land transfers • Conservation easements |
| Groundwater Projects | <ul style="list-style-type: none"> • Green parking lots, permeable pavements, and green streets (i.e., increasing the vegetative cover in these areas to encourage groundwater recharge) • Bioswales and rain gardens as an alternative to stormwater runoff conveyance systems • Septic conversions to reduce the risk of contaminating the surrounding environment with sewage pathogens • Capping abandoned wells to stop a direct pathway for contaminated surface waters to enter an aquifer |
| Recreation Projects | <ul style="list-style-type: none"> • Constructing, improving (e.g., to make compliant with the Americans with Disabilities Act [ADA]), or maintaining boat launches, ramps, fishing piers, and boating facilities • Purchasing and restoring land with public access to water • Constructing or maintaining public hiking and biking trails, wildlife and natural viewing areas • Providing additional public parking and access opportunities • Constructing, improving, or maintaining public recreation area amenities (e.g., nature information hub, restrooms, water fountains, trash control), including updating these amenities to comply with the ADA |

25. ORR Fund Administration. DOE and the State agree the Trustee Council will administer the ORR Fund by establishing procedures for submission and approval of project applications

to utilize these funds. The administration of the ORR Fund will be delineated in the fund implementation documents.

26. Purpose of the ORR Fund. The Trustees agree that the purpose of the ORR Fund is to resolve alleged impacts to natural resources on the ORR by:

- a. Providing additional natural resource services by (1) benefitting specific natural resources or sets of resources (i.e., surface water, sediment, aquatic or terrestrial invertebrates, fish, birds, reptiles, amphibians, mammals), as well as the human users of these resources and (2) generating groundwater, or recreational benefits, such as groundwater infrastructure improvements or improvements to recreational opportunities and access; and
- b. Focusing resources toward increasing the opportunity to protect and improve multiple natural resources with an emphasis on increased connectivity to maximize resource services; and

In addition to the listed purposes above, the ORR Fund will strengthen environmental justice, benefit underserved communities, and promote climate-resilient sustainability.

27. ORR Fund Committee. A committee comprised of representatives from the Trustee Council will review and recommend proposals for funding. These Trustee Council representatives will make the recommended proposals available for public review.

28. Funding. TDEC and DOE have agreed to apply the funds in the Perpetual Care Trust Fund for the Environmental Management Waste Management Facility ("EMWMF"), a DOE disposal facility accepting waste generated as part of DOE's cleanup of the ORR, to partially fund the ORR Fund to provide funding for the restoration of the ORR due to alleged impacts to natural resources. Re-purposing the Perpetual Care Fund will remove any post-closure obligations at

the EMWMF that TDEC previously held. As described in the modified ORR Fund Implementation Plan, DOE will assume full responsibility and liability for post-closure operation and maintenance of the EMWMF, including paying any associated costs, as a condition of applying the Perpetual Care Trust Fund to the requirements of this Order. The amount of the Perpetual Care Trust Fund as of the Effective Date of this Administrative Order on Consent (Order) is approximately \$20,765,094. DOE agrees to pay an additional \$22,000,000 into the ORR Fund through annual payments of at least \$2 million per year over a period of five years. If, for good cause, DOE is unable to pay this amount through the five-year payment schedule prescribed in this paragraph, DOE may request, and TDEC shall not unreasonably deny permission for, a single two-year extension to complete payment of the remainder of this amount.

29. Non-DOE Trustees. TVA and FWS have reviewed this Order and have no objection to its provisions. TDEC has sole authority to represent Tennessee in connection with the claims alleged here.

30. Agreement Not to Refer. During the implementation of this Order and provided TDEC considers DOE to be in compliance with the obligations of this Order, TDEC agrees not to refer DOE to the TN AG or take administrative enforcement action against DOE for Natural Resource Damages claims covered by this Order, except those specifically reserved in Paragraph 32 of this Order.

31. Covenants by TDEC. TDEC, on behalf of the State of Tennessee, agrees that DOE's agreement to fund the ORR Fund according to the terms of this Order, agreement to participate in the administration of the ORR Fund, and agreement to assist in the completion of the agreed-

upon ORR Fund projects, when DOE's assistance is necessary, shall satisfy TDEC's alleged natural resource damages claims, except those reserved in Paragraph 32 of this Order.

32. Reservation of Rights. TDEC reserves the right to seek legal and/or equitable relief to enforce the following claims against DOE regarding injuries to Natural Resources at the ORR:

- Claims based on conditions, including but not limited to the release of hazardous substances by DOE at or to the ORR area, previously unknown to the Trustee Council, that are discovered after the Effective Date of this Order, and that cause or contribute to new or additional injuries to, losses of, or destruction of Natural Resources, or new or additional service losses; and
- Claims based upon information received by TDEC after the Effective Date of this Order that indicates releases of hazardous substances by DOE at the ORR have resulted in injury to, destruction of, or loss of Natural Resources of a type or magnitude that was unknown to the Trustees as of the Effective Date of this Order.
- For the purpose of this Paragraph 32, the information and conditions known to the Trustee Council shall include any information or conditions listed or identified in records relating to the ORR that were (1) in the possession or under the control of TDEC, FWS, or TVA or (2) made publicly available and accessible as of the Effective Date of this Order.

33. Termination. DOE's obligations under this Order shall terminate upon TDEC's receipt of the Trustees' written certification that all monies from the ORR Fund have been disbursed. This certification shall be submitted by the Trustees to TDEC and shall be signed by responsible officials of each Trustee. The termination of DOE's obligations under this Order shall not terminate TDEC's reservations identified in Paragraph 32 or DOE's obligations to provide access for continued work, oversight, maintenance, etc. of ORR Fund projects on DOE land.

34. **Anti-Deficiency Act.** DOE and TDEC disagree on the legal effect that the unavailability of appropriated funds would have on DOE's obligations under this Order. DOE takes the position that the Anti-Deficiency Act, 31 U.S.C. § 1341, relieves DOE of its obligations under this Order to the extent appropriated funds are unavailable. TDEC disagrees that the unavailability of appropriated funds is a valid defense to DOE's obligations under this Order. However, TDEC and DOE agree and stipulate that it is currently premature to raise and adjudicate the existence of such a defense.

35. **Signatories.** The undersigned representatives of TDEC and DOE each certify that he or she is fully authorized to enter into the terms and conditions of this Order and to execute and legally bind such Party to this document. This Order may be executed in multiple counterparts, each of which shall be deemed an original, but all of which, taken together, shall constitute one and the same instrument.

36. **Final Understanding.** This Order and its exhibits constitute the final, complete, and exclusive understanding among the Parties with respect to the matters embodied herein. The Parties acknowledge that there are no representations, agreements, or understandings relating to these matters other than those expressly contained in this Order.

FOR THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION



David W. Salyers, P.E., Commissioner
Tennessee Department of Environment and Conservation

FOR THE UNITED STATES DEPARTMENT OF ENERGY



John A. Mullis II, Manager
Oak Ridge Department of Environmental Management