

# THE OAK RIDGE CLEANUP: PROTECTING THE PUBLIC OR THE POLLUTER?

by Charles Openchowski

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## SUMMARY

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The Oak Ridge Reservation is one of the largest U.S. Department of Energy (DOE) facilities in the country, with areas that are highly contaminated by chemicals, metals, and radionuclides. DOE is in the middle of a multi-decade, multi-billion-dollar cleanup there, and a recent Superfund decision for one portion of the site raises a number of significant legal issues. This Article addresses some related questions: Should radionuclides get less stringent cleanup than other equally harmful pollutants like mercury and polychlorinated biphenyls? Should Bear Creek and its downstream waters, which run through the facility, get less protection than other streams designated for recreational use? Should recreational fishermen using Bear Creek and its downstream waters be exposed to greater risk? And should DOE get a better deal than other polluters? It concludes there is a clear path forward to bring the Oak Ridge cleanup in line with CERCLA, the national contingency plan, and existing EPA guidance and policy, as required by its federal facility agreement.

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The Oak Ridge Reservation (ORR) is a U.S. Department of Energy (DOE) facility covering about 34,000 acres near Knoxville, Tennessee.<sup>1</sup> ORR is bounded on the north and east by the city of Oak Ridge, and on the south and west by the Clinch River.<sup>2</sup> The facility “was established as part of the Manhattan Project to process natural material for use in nuclear weapons for the military during World War II.”<sup>3</sup>

Various activities over time at ORR “generated a variety of radioactive, non-radioactive and mixed (radioactive and non-radioactive) hazardous wastes. Leakage from buried wastes, stored wastes, and operational activities from these facilities

has resulted in hundreds of contaminated areas across the site.”<sup>4</sup> These activities and their associated

wastes have also contaminated surface water and sediment outside of ORR’s property boundaries including the Lower East Fork Poplar Creek, the Poplar Creek/Clinch River and the lower Watts Bar Reservoir of the Tennessee River. In total, site contaminants have affected 82 river miles of the Clinch River and the Clinch River arm of the Watts Bar Reservoir. The contaminants are mostly located in river and lake bottom sediments.<sup>5</sup>

In 1989, the U.S. Environmental Protection Agency (EPA) placed the site on the national priorities list (NPL)<sup>6</sup> pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).<sup>7</sup> As required by CERCLA §120, a federal facility agreement (FFA) was

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*Author’s Note: This Article is not a product of the U.S. government or EPA. The author is not doing work in any governmental capacity. The views expressed are his own and do not necessarily represent those of the United States or EPA.*

1. U.S. Environmental Protection Agency (EPA), *Oak Ridge Reservation (US-DOE) Oak Ridge, TN*, <https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.Cleanup&tid=0404152> (last visited Jan. 16, 2023).
2. Tennessee Emergency Management Agency (TEMA), *About the Oak Ridge Reservation*, <https://www.tn.gov/tema/prepare/technical-hazards/department-of-energy/about-the-oak-ridge-reservation.html> (last visited Jan. 16, 2023).
3. ORR’s role in the Manhattan Project included “enriching uranium and pioneering methods for producing and separating plutonium.” DOE, *OAK RIDGE RESERVATION ANNUAL SITE ENVIRONMENTAL REPORT 2013*, at 1-1 (2014), [https://doeic.science.energy.gov/aser/aser2013/Chapter%201\\_Introduction%20to%20the%20Oak%20Ridge%20Reservation.pdf](https://doeic.science.energy.gov/aser/aser2013/Chapter%201_Introduction%20to%20the%20Oak%20Ridge%20Reservation.pdf).

4. TEMA, *supra* note 2. In addition, “[a]bout 15% of the ORR is contaminated by hazardous and radioactive materials, including waste sites or remediation areas.” *Id.*
5. *Id.*
6. Letter from Mary S. Walker, Acting Regional Administrator, U.S. EPA Region 4, to John A. Mullis II, Manager, DOE Oak Ridge Office of Environmental Management & David W. Salyers, Commissioner, Tennessee Department of Environment and Conservation (Mar. 21, 2019), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/73212\\_EM-WMF\\_EMDF\\_FFS\\_Formal\\_Dispute\\_EPA\\_03\\_21\\_2019.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/73212_EM-WMF_EMDF_FFS_Formal_Dispute_EPA_03_21_2019.pdf) [hereinafter RA Decision].
7. 42 U.S.C. §§9601-9675, ELR STAT. CERCLA §§101-405.

entered into in 1991; the FFA was signed by DOE, EPA, and the Tennessee Department of Environment and Conservation (TDEC). The CERCLA cleanup at ORR is governed by the terms of the FFA. A recent report by the U.S. Government Accountability Office (GAO) estimates the final cleanup cost to be in excess of \$30 billion, with a projected completion date of 2047.<sup>8</sup>

This Article examines a number of legal issues raised by the resolution of a formal dispute over how to properly address wastewater discharges from landfills associated with the ORR cleanup. The Article identifies pertinent FFA provisions that require that the cleanup be carried out in accordance with CERCLA, its implementing regulations, and EPA guidance, and analyzes how a number of important aspects of the dispute resolution decision and its implementation violate the FFA by being inconsistent with the statute, regulations, and guidance documents.

## I. Background

As is common at large CERCLA sites, the Oak Ridge cleanup has been divided into a number of operable units (OUs). At ORR, there are 56 OUs spread out over five watershed cleanup areas. Two of these watershed areas—Bear Creek Valley and Upper East Fork Poplar Creek—are impacted by one 800-acre portion of the ORR facility, the Y-12 National Nuclear Security Complex (Y-12).<sup>9</sup> Y-12 is an active federal manufacturing and storage facility that is used to manufacture parts for nuclear weapons and stores the nation's supply of enriched uranium. The cleanup at Y-12 includes demolition of highly contaminated buildings no longer in use, as well as the construction of a large-scale water treatment plant to control the migration of mercury from ORR into East Fork Poplar Creek.<sup>10</sup>

In 1999, DOE issued a CERCLA record of decision (ROD) that selected the construction of the Environmental Management Waste Management Facility (EMWMF) landfill to dispose of wastes and debris associated with the building demolition activities at ORR.<sup>11</sup> The landfill, which has an estimated capacity of 2.3 million cubic yards,

began receiving wastes in 2002.<sup>12</sup> DOE estimates that it will reach its disposal capacity in the “late 2020’s.”<sup>13</sup>

### A. The Landfill Wastewater Discharge Dispute

As part of its operations, EMWMF generates contact water (e.g., water that becomes contaminated when rain comes in contact with as-yet uncapped solid and/or hazardous waste, including mercury, polychlorinated biphenyls (PCBs), and radionuclides). In 2016, TDEC initiated an informal dispute pursuant to the FFA regarding a draft “Focused Feasibility Study (FFS) for Water Management for the Disposal of CERCLA Waste on the Oak Ridge Reservation, Oak Ridge, Tennessee” prepared by DOE to address wastewater discharges—both contact water and landfill leachate—from both EMWMF, as well as from the Environmental Management Disposal Facility (EMDF), a new landfill DOE proposed to build to dispose of additional building demolition wastes associated with future ORR cleanup actions.<sup>14</sup>

TDEC raised a number of concerns about the way wastewater discharges from EMWMF already were being mismanaged. For example, TDEC objected to the way contact water (a point source wastewater) from EMWMF was being discharged into an unlined ditch, then improperly mixed and diluted with clean stormwater in a sediment basin, prior to the point of compliance. TDEC viewed this practice to be unauthorized by the Clean Water Act (CWA)<sup>15</sup> and found “no formal approval of the current point of compliance in a primary CERCLA or FFA document.” TDEC also noted the presence of radionuclides in Bear Creek surface water, and found that DOE had failed to establish discharge limits for them that would be protective of human health and the environment.<sup>16</sup>

8. GAO, ENVIRONMENTAL CLEANUP: STATUS OF MAJOR DOE PROJECTS AND OPERATIONS (2022) (GAO-22-104662), <https://www.gao.gov/assets/gao-22-104662.pdf>.

9. Y-12 is in the eastern portion of ORR within the corporate limits of the city of Oak Ridge in Anderson County. The center of Y-12 is about three miles southwest of the main business district of the city of Oak Ridge and about 20 miles west-northwest of Knoxville. The closest residents to Y-12 are located in the city's Scarboro neighborhood. See TEMA, *Department of Energy Program*, <https://www.tn.gov/tema/prepare/technical-hazards/departement-of-energy.html> (last visited Jan. 16, 2023).

10. In addition to actions to address surface water contamination, DOE is carrying out groundwater studies to determine the extent of contamination (including migration of contaminated groundwater off-site) that may require remediation. See U.S. EPA, *supra* note 1.

11. DOE, RECORD OF DECISION FOR THE DISPOSAL OF OAK RIDGE RESERVATION COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 WASTE, OAK RIDGE, TENNESSEE (1999) (DOE/OR/01-1791&D3), <https://semspub.epa.gov/work/HQ/186989.pdf>.

12. Brian Henry, Oak Ridge Office of Environmental Management Y-12 Portfolio Federal Project Director, Ongoing Efforts to Assure Waste Disposal Capacity for the Oak Ridge Reservation, Presentation (May 12, 2021), <https://www.energy.gov/sites/default/files/2021-05/2021%20May%2012%20ORR%20Waste%20Disposal%20Capacity%20Presentation%20-%20Final%20Cleared.pdf>.

13. *Id.*

14. Letter from Randy Young, FFA Manager, TDEC, to John Japp, FFA Manager, DOE, re Focused Feasibility Study (FFS) for Water Management for the Disposal of CERCLA Waste on the Oak Ridge Reservation, Oak Ridge, Tennessee (DOE/OR/01-2664&D2) (Mar. 31, 2016). All documents related to the dispute can be found at TDEC, *EMDF Documents*, <https://www.tn.gov/environment/program-areas/rem-remediation/rem-oak-ridge-reservation-clean-up/emdf/emdfdocuments.html> (last updated Jan. 4, 2023).

15. 33 U.S.C. §§1251-1387, ELR STAT. FWPCA §§101-607.

16. In a separate letter to DOE one year later, TDEC raised additional concerns about the EMWMF wastewater discharges into Bear Creek, noting that since 2009 there had been a measurable increase in concentrations of mercury in downstream rock bass. The letter pointed out that “Bear Creek and downstream surface water are classified for recreation (e.g., fishing and fish consumption) and other uses and impaired water quality in Bear Creek is not a new issue,” and that “[t]his trend is disturbing in light of the fact that DOE proposes to construct another disposal facility in Bear Creek Valley. . . .” Letter from Randy Young, FFA Manager, TDEC, to John Japp, FFA Manager, DOE, re Explanation of Significant Differences for the Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee (DOE/OR/01-2322&D1) (Oct. 25, 2017), <https://ia803100.us.archive.org/10/items/6005653-TDEC-Letter-Oak-Ridge-Pollution/6005653-TDEC-Letter-Oak-Ridge-Pollution.pdf>.

## B. The EPA Regional Administrator's Dispute Resolution Decision

EPA Region 4 initiated an informal dispute pursuant to the FFA over the same draft DOE FFS document a day later, highlighting how the DOE approach to coming up with effluent discharge limits for wastewater discharges into Bear Creek was inconsistent with CERCLA and CWA requirements. When the issues between the agencies could not be resolved, the Region initiated a formal dispute in August 2018.<sup>17</sup>

In her decision letter dated March 21, 2019 (RA Decision), the EPA Region 4 acting regional administrator summarized EPA's position that "waste waters discharged from the EMWMF and proposed EMDF must meet the CERCLA §121(d) threshold requirement for ensuring protectiveness of human health and the environment and that there is no exception for discharges of radionuclides."<sup>18</sup> Further:

Such discharges as with any component of a CERCLA remedial action, must also comply with the other threshold requirement of attaining "applicable requirements" and/or "relevant and appropriate requirements" (ARARs) identified by EPA. In the event of a dispute among the FFA parties over remedy selection (which includes ARAR determinations), CERCLA §120(e)(4) is clear that EPA's authority is controlling at this NPL site.<sup>19</sup>

The 2019 RA Decision then went on to make a number of noteworthy findings. For example:

As stated above, based on an evaluation of the 40 CFR §300.400(g) factors, EPA Region 4 concludes that the CWA NPDES [national pollutant discharge elimination system] technology-based and water quality-based effluent limitation regulations and TNWQS [Tennessee water quality standards] are relevant and appropriate requirements to the discharge of radionuclide contaminated waste water at the ORR Site. Waste water discharges from the site should, therefore, comply with these requirements.<sup>20</sup>

Further, the RA Decision made several important findings related to statutory and regulatory provisions, as well as legislative history, pertaining to the purposes of various CWA requirements, including:

The CWA requires application of the "best available technology economically achievable" . . . which shall require the elimination of discharges of all pollutants if the

Administrator finds, on the basis of information available to him . . . that such elimination is technologically and economically achievable . . . 33 U.S.C. §1311(b)(2)(A).

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Here, existing treatment technology clearly is available and achievable under the CWA, and using that treatment technology is consistent with CERCLA section 121(b)'s preference for treatment "to the maximum extent practicable." A non-treatment technology approach (e.g., reliance on dilution) as the methodology for deriving the effluent limitations ignores the technology-based provisions of the CWA and is inconsistent with the statutory preference for treatment under CERCLA §121(b)(1) and associated provisions in the NCP [national contingency plan].<sup>21</sup>

## C. The EPA Administrator's Dispute Resolution Decision

As allowed by the FFA, DOE elevated the formal dispute to EPA Administrator Andrew Wheeler on April 5, 2019.<sup>22</sup> On the same day, and twice thereafter, TDEC wrote letters expressing its support for the March 21, 2019, RA Decision.<sup>23</sup> On December 31, 2020, former Administrator Wheeler issued his final decision (Wheeler Decision) resolving the yearslong dispute over how to determine effluent discharge limits for wastewater discharges at both EMWMF and EMDF.<sup>24</sup> While the Wheeler Decision did reaffirm that CERCLA authority governs the cleanup at federal facility NPL sites like ORR, it did not

21. *Id.* at 9. The RA Decision also pointed out that "[t]he CWA Legislative History at 1425 (Senate Report) states: '(t)he use of any river, lake, stream or ocean as a waste treatment system is unacceptable' regardless of the measurable impact of the waste on the body of water in question," and the CWA Conference Report states that the Act "specifically bans pollution dilution as an alternative to waste treatment." *Id.* Despite this, DOE has indicated that it still intends to use dilution as part of its approach to the landfills' wastewater discharges. See Benjamin Pounds, *Reactions Mixed on Proposed Landfill for Low Level Hazardous Waste*, OAKRIDGE (May 31, 2022), <https://news.yahoo.com/reactions-mixed-proposed-landfill-low-010010702.html>.
22. Letter from John A. Mullis II, Manager, DOE Oak Ridge Office of Environmental Management, to Andrew Wheeler, Administrator, U.S. EPA (Apr. 5, 2019), <https://doeic.science.energy.gov/uploads/F.0600.029.0815.pdf>.
23. Letter from David W. Salyers, Commissioner, TDEC, to John A. Mullis, Manager, DOE Oak Ridge Office of Environmental Management & Mary S. Walker, Acting Regional Administrator, U.S. EPA Region 4 (Apr. 5, 2019), <https://doeic.science.energy.gov/uploads/F.0600.029.0812.pdf>; Letter from David W. Salyers, Commissioner, TDEC, to Andrew R. Wheeler, Administrator, U.S. EPA (Apr. 18, 2019), <https://doeic.science.energy.gov/uploads/F.0615.029.0162.pdf>; Letter from David W. Salyers, Commissioner, TDEC, to Andrew R. Wheeler, Administrator, U.S. EPA (July 5, 2019), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/73212\\_EMWMF\\_EMDF\\_FFS\\_Formal\\_Dispute\\_TDEC\\_07\\_05\\_2019.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/73212_EMWMF_EMDF_FFS_Formal_Dispute_TDEC_07_05_2019.pdf).
24. Letter from Andrew Wheeler, Administrator, U.S. EPA, to John A. Mullis II, Manager, DOE Oak Ridge Office of Environmental Management & David W. Salyers, Commissioner, TDEC (Dec. 31, 2020), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/73212\\_EMDF\\_FFS\\_Decision\\_EPA\\_12\\_31\\_2020.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/73212_EMDF_FFS_Decision_EPA_12_31_2020.pdf) [hereinafter Wheeler Decision].

17. Letter from Constance Jones, FFA Project Manager, U.S. EPA, to Chris P. Thompson, Director, TDEC Division of Remediation & Jay A. Mullis, Manager, DOE Oak Ridge Office of Environmental Management (Aug. 24, 2018), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/14\)%2073212\\_EMDF\\_FFS\\_Dispute\\_EPA\\_08\\_24\\_2018.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/14)%2073212_EMDF_FFS_Dispute_EPA_08_24_2018.pdf).

18. RA Decision, *supra* note 6, at 2.

19. *Id.* at 3.

20. *Id.* at 8. The citation is to the national contingency plan (NCP).

uphold key aspects of the 2019 RA Decision, as discussed more fully below.

On September 30, 2022, a CERCLA ROD for EMDF was signed by officials from DOE and TDEC, and by EPA Administrator Michael Regan.<sup>25</sup> The EMDF ROD makes numerous references to the fact that it is based on and follows the Wheeler Decision<sup>26</sup>; by signing the EMDF ROD, the current EPA Administrator in effect reaffirmed the interpretations and determinations made by his predecessor. Both the Wheeler Decision and the final, approved FFS for Water Management for the Disposal of CERCLA Waste on the Oak Ridge Reservation<sup>27</sup> make it clear that effluent discharge limits are to be calculated the same way for both the existing EMWRF and the to-be-built EMDF landfills. The 1999 EMWRF ROD has not been updated.

## II. The FFA

CERCLA provides broad response authority to federal agencies:

The President is *authorized to act, consistent with the national contingency plan*, to remove or arrange for the removal of, and provide for remedial action . . . or take any other response measure *consistent with the national contingency plan* which the President deems necessary to protect the public health or welfare or the environment.<sup>28</sup>

Reflecting the introductory phrase in CERCLA §104(a), a stated purpose of the FFA in Section III (Purposes of the Agreement) is to “[e]stablish a procedural framework and schedule for developing, implementing and monitoring appropriate response actions at the Site in accordance with CERCLA, the NCP, RCRA [Resource Conservation and Recovery Act], NEPA [National Environmental Policy Act], appropriate guidance and policy, and in accordance with Tennessee law.”<sup>29</sup>

This provision is cross-referenced in several other provisions of the FFA. For example, the FFA requires EPA and DOE to “meet the purposes set forth in Section III (Purposes of the Agreement)” when preparing specified remedy selection documents, including but not limited to remedial investigation and feasibility studies (RI/FS), proposed plans, and RODs.<sup>30</sup>

Section III of the FFA also includes a number of additional specifically enumerated purposes of the interagency agreement, including the following:

- “Implement the selected operable unit(s) and final remedial action(s) in accordance with CERCLA”<sup>31</sup>
- “Response actions at the Site shall attain that degree of remediation of hazardous substances, pollutants or contaminants mandated by CERCLA”<sup>32</sup>

The FFA’s provisions requiring EPA and DOE to act in accordance with CERCLA, the NCP, and EPA policies and guidance merely reflect long-standing principles of administrative law established in extensive case law. Thus, for example, “[i]nsofar as Congress has made explicit statutory requirements, they must be observed and are beyond the dispensing power of [executive] officials.”<sup>33</sup> And, an “agency must follow its own rules.”<sup>34</sup> Further, “[a]gencies use guidance to explain how they propose to exercise discretionary powers and how they interpret statutes and rules.”<sup>35</sup> These policy statements and guidance documents include “interpretative rules, which advise the public of an agency’s interpretation of the statutes and regulations it administers; and general statements of policy, which advise

25. DOE, RECORD OF DECISION FOR COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OAK RIDGE RESERVATION WASTE DISPOSAL AT THE ENVIRONMENTAL MANAGEMENT DISPOSAL FACILITY OAK RIDGE, TENNESSEE (2022) (DOE/OR/01-2794&D2/R2), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem-73212\\_EMDF\\_ROD\\_D2R2\\_09\\_30\\_2022.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem-73212_EMDF_ROD_D2R2_09_30_2022.pdf) [hereinafter EMDF ROD].

26. See, e.g., *id.* at 2-66, 2-69, and 2-84. See also *id.* at 3-453 (“The proposed remedy for EMDF is being selected consistent with the ‘December 31, 2020 Radionuclide Pollution Decision issued by former EPA Administrator Andrew Wheeler.’”).

27. DOE, FOCUSED FEASIBILITY STUDY FOR WATER MANAGEMENT FOR THE DISPOSAL OF CERCLA WASTE ON THE OAK RIDGE RESERVATION, OAK RIDGE, TENNESSEE (2022) (DOE/OR/01-2664&D4/R1), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem-73212\\_EMDF\\_Wastewater\\_FFS\\_D4R1\\_Errata\\_08\\_31\\_2022.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem-73212_EMDF_Wastewater_FFS_D4R1_Errata_08_31_2022.pdf).

28. 42 U.S.C. §9604(a)(1) (emphasis added). The president’s CERCLA authorities have been delegated to various agencies pursuant to Executive Order No. 12580. National Archives, *Executive Order 12580—Superfund Implementation*, <https://www.archives.gov/federal-register/codification/executive-order/12580.html> (last reviewed Aug. 15, 2016).

29. The reference to “guidance and policy” following the inclusion of RCRA and NEPA makes it clear that it is not limited to only CERCLA guidance. DOE ET AL., FEDERAL FACILITY AGREEMENT FOR THE OAK RIDGE RESERVATION (1992), [https://www.energy.gov/sites/prod/files/em/2001\\_Agreements/](https://www.energy.gov/sites/prod/files/em/2001_Agreements/)

ORR\_FFA\_1-1-92.pdf; 42 U.S.C. §§6901-6992k, ELR STAT. RCRA §§1001-11011; 42 U.S.C. §§4321-4370h, ELR STAT. NEPA §§2-209.

30. See DOE ET AL., *supra* note 29, §§XI, XII, XIV, XV, and XVI. Other CERCLA §120 FFAs have similar language. See, for example, the FFA signed by EPA, the U.S. Navy, and California for the Hunters Point NPL site in San Francisco: U.S. NAVY ET AL., FEDERAL FACILITY AGREEMENT FOR NAVAL STATION TREASURE ISLAND—HUNTERS POINT ANNEX §6.1 (1992), [https://www.envirostor.dtsc.ca.gov/public/deliverable\\_documents/1110380411/FFA\\_TT%20and%20HP.pdf](https://www.envirostor.dtsc.ca.gov/public/deliverable_documents/1110380411/FFA_TT%20and%20HP.pdf) (“The Parties agree to perform the tasks, obligations and responsibilities described in this Section in accordance with CERCLA and CERCLA guidance and policy; the NCP; pertinent provisions of RCRA and RCRA guidance and policy; Executive Order 12580; applicable State laws and regulations. . .”).

31. DOE ET AL., FEDERAL FACILITY AGREEMENT FOR THE OAK RIDGE RESERVATION (1992), [https://www.energy.gov/sites/prod/files/em/2001\\_Agreements/ORR\\_FFA\\_1-1-92.pdf](https://www.energy.gov/sites/prod/files/em/2001_Agreements/ORR_FFA_1-1-92.pdf).

32. *Id.*

33. *Angelus Milling Co. v. Commissioner of Internal Revenue*, 325 U.S. 293, 296 (1945). See also *Lincoln v. Vigil*, 508 U.S. 182, 193 (1993) (“an agency is not free simply to disregard statutory responsibilities”); *Utility Air Regul. Grp. v. Environmental Prot. Agency*, 134 S. Ct. 2427, 2446, 44 ELR 20132 (2014) (“Under our system of government, Congress makes laws and the President, acting at times through agencies like EPA, ‘faithfully execute[s]’ them.”).

34. *Federal Comm’ns Comm’n v. Fox Television Stations*, 556 U.S. 502 (2009) (Breyer, J., dissenting) (citing *Arizona Grocery Co. v. Atchison, Topeka & Santa Fe Ry. Co.*, 284 U.S. 370, 389-90 (1932)). See also, e.g., *Bradley v. Weinberger*, 483 F.2d 410, 414 n.2 (1st Cir. 1973) (“If an agency action violates a regulation, it is ‘not in accordance with law’ as well as violative of due process, *United States v. Griglio*, 467 F.2d 572 (1st Cir. 1972).”).

35. Administrative Conference of the United States, *Guidance Documents*, <https://www.acus.gov/guidance> (last visited Feb. 1, 2023).

the public about an agency's intended use of its discretionary authority."<sup>36</sup>

To help administer the CERCLA cleanup program in a consistent and transparent manner, EPA has issued numerous policy statements and guidance documents; many of the Agency's guidance documents address issues within the purview of EPA's technical expertise. While guidance documents do not establish binding legal requirements,<sup>37</sup> parties like EPA, DOE, and the state of Tennessee can enter into a binding legal agreement which, among other things, includes a commitment to use EPA guidance in carrying out its terms and conditions.

CERCLA §121 contains several separate, independent requirements that must be met when selecting remedial actions.<sup>38</sup> These include attaining federal and more stringent state ARARs, ensuring protectiveness of human health and the environment, and using treatment to the maximum extent practicable.

The NCP codifies these statutory requirements into the regulation's detailed remedy selection process in a number of ways.<sup>39</sup> That process includes the development of preliminary remediation goals (PRGs) as one of the critical initial steps in preparing an FS. PRGs "are developed based on readily available information, such as chemical-specific ARARs"; in this case, the primary ARARs at issue are requirements established under the CWA and its implementing regulations.<sup>40</sup> While not the exclusive consideration, ARARs play a critical role in developing PRGs, the subsequent consideration of alternatives, and ultimately when final remediation goals (in this case, effluent discharge limits from both landfills) are selected in a ROD.

As explained in Agency policy statements and guidance, ARARs also play a critical role in satisfying the separate, independent requirement in §121 to ensure protectiveness of human health and the environment. "The overall assessment of protection draws on the assessments conducted under other evaluation criteria, especially long-term effectiveness and permanence, short-term effectiveness, and

*compliance with ARARs.*"<sup>41</sup> EPA policy, made clear in the preamble to the final NCP, is that the most stringent ARARs are to be used in the remedy selection process: "CERCLA requires that remedial actions comply with all requirements that are applicable or relevant and appropriate. *Therefore, a remedial action has to comply with the most stringent requirement that is ARAR to ensure that all ARARs are attained.*"<sup>42</sup> The NCP recognizes, however, that sometimes ARARs by themselves are not determinative of ensuring protectiveness of human health and the environment: "The 10-6 risk level shall be used as the point of departure for determining remediation goals for alternatives *when ARARs are not available or are not sufficiently protective* because of the presence of multiple contaminants at a site or multiple pathways of exposure."<sup>43</sup>

As discussed in the preamble to the final NCP, EPA policy is as follows:

Additionally, it is now clear that ARARs do not by themselves necessarily define protectiveness. First, ARARs do not exist for every contaminant, location, or waste management activity that may be encountered or undertaken at a CERCLA site. Second, in those circumstances where multiple contaminants are present, the cumulative risks posed by the potential additivity of the constituents *may require cleanup levels for individual contaminants to be more stringent than ARARs* to ensure protection at the site. Finally, determining whether a remedy is protective of human health and the environment also requires consideration of the acceptability of any short-term or cross-media impacts that may be posed during implementation of a remedial action.<sup>44</sup>

36. CONGRESSIONAL RESEARCH SERVICE, LSB10591, AGENCY USE OF GUIDANCE DOCUMENTS (Apr. 19, 2021), <https://crsreports.congress.gov/product/pdf/LSB/LSB10591>.

37. *Id.*

38. EPA has interpreted these statutory provisions in the preamble to the final NCP, which clarifies the mandatory, non-discretionary nature of §121's requirements. The preamble explains how the remedy selection process, including the development of preliminary remediation goals (PRGs), is designed "to ensure that remedies comply with *CERCLA's mandate* to be protective of human health and the environment and comply with ARARs." National Oil and Hazardous Substances Pollution Contingency Plan, 55 Fed. Reg. 8666, 8712 (Mar. 8, 1990) (emphasis added). The preamble, *id.* at 8720, also states: "The criterion [long-term effectiveness and permanence] is founded on *CERCLA's mandates* to select remedies that are protective of human health and the environment and that utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable and that maintain protection over time." (emphasis added).

39. *See, e.g.*, 40 C.F.R. §300.430(e) and (f).

40. "Remediation goals shall establish acceptable exposure levels that are protective of human health and the environment and shall be developed by considering the following: (A) Applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws, if available. . . ." *Id.* §300.430(e)(2)(i).

41. 55 Fed. Reg. at 8720 (emphasis added). The preamble, *id.* at 8709, also states:

Further, EPA notes that CERCLA requires that all Superfund remedies be protective of human health and the environment but provides no guidance on how this determination is to be *made other than to require the use of ARARs as remediation goals* where these ARARs are related to protectiveness. (emphasis added).

42. *Id.* at 8741 (emphasis added).

43. 40 C.F.R. §300.430(e)(2)(i)(A)(2) (emphasis added). The preamble explains EPA's policy position that 10-6 is an important point of departure: "EPA's preference, all things being equal, is to select remedies that are at the more protective end of the risk range. Therefore, when developing its preliminary remediation goals, EPA uses 10-6 as a point of departure (see next preamble section on point of departure)." 55 Fed. Reg. at 8716.

44. 55 Fed. Reg. at 8701 (emphasis added). The preamble, *id.* at 8713, further addresses the fact that ARARs alone may not be sufficient to ensure protectiveness as follows: "Where ARARs do not exist or where the baseline risk assessment indicates that cumulative risks—due to additive or synergistic effects from multiple contaminants or multiple exposure pathways—make ARARs nonprotective, EPA will modify preliminary remediation goals, as appropriate, to be protective of human health and the environment." Further: "In some situations, compliance with ARARs may not result in protective remedies because of exposure to multiple chemicals or through multiple exposure pathways that have additive or synergistic effects. In this case a remedy may need to achieve levels more stringent than the ARARs to ensure protection." *Id.* at 8726. *See also* Memorandum from Timothy J. Fields, Assistant Administrator, U.S. EPA Office of Solid Waste and Emergency Response, to Addressees, re Clarification of the Role of Applicable or Relevant and Appropriate Requirements in Establishing Preliminary Remediation Goals Under CERCLA (1997) (OSWER Directive 9200.4-23), <https://bit.ly/3Yx063L>.

### III. Violations of the FFA

TDEC and EPA originally initiated the dispute under the FFA in 2016 to ensure that the effluent discharge limits for EMWMF—which had never been established by a CWA permit or through the CERCLA remedy selection process leading up to the 1999 ROD—and EMDF would be protective of human health and the environment using the CERCLA approach. The heart of the formal dispute originally centered on the development of PRGs in accordance with CERCLA and the NCP.

In a number of significant ways, the Wheeler Decision, the FFS, and the EMDF ROD are arbitrary and capricious, do not comply with and are not “in accordance with” CERCLA requirements, are inconsistent with and not “in accordance with” a number of provisions in the NCP, and deviate materially from numerous long-standing national EPA guidance documents without providing any reasoned explanations and scientifically credible supporting data for such deviations.<sup>45</sup> As such, these documents and the actions leading up to their issuance represent multiple violations of the FFA due to:

- Improper exclusion of the two most stringent available CWA ARARs;
- Substantial weakening and undermining of two other important CWA ARARs;
- Failure to use treatment “to the maximum extent practicable”;
- Failure to ensure protection of human health and the environment;
- Inadequate opportunities for meaningful public participation; and
- Unpermitted and unauthorized discharges of contaminated wastewater.

45. Under prevailing case law, deviating from existing, long-standing Agency rules and guidance without a reasoned explanation is considered arbitrary, capricious, and not otherwise in accordance with law. *See, e.g., National Cable & Telecomm. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 981-82 (2005). Thus, “[a]n agency may not, for example, depart from a prior policy *sub silentio* or simply disregard rules that are still on the books.” *Federal Comm’n Comm’n v. Fox Television Stations*, 556 U.S. 502, 515 (2009). In his concurring opinion in *Fox*, Justice Anthony Kennedy wrote:

This separate writing is to underscore certain background principles for the conclusion that an agency’s decision to change course may be arbitrary and capricious if the agency sets a new course that reverses an earlier determination but does not provide a reasoned explanation for doing so. In those circumstances, I agree with the dissenting opinion of Justice Breyer that the agency must explain why “it now reject[s] the considerations that led it to adopt that initial policy.”

In the dissent referred to by Justice Kennedy, Justice Stephen Breyer wrote: And when an agency seeks to change those rules, it must focus on the fact of change and explain the basis for that change. *See, e.g., National Cable & Telecommunications Ass’n v. Brand X Internet Services*, 545 U.S. 967, 981 (2005) (“Unexplained inconsistency is a reason for holding an interpretation to be an arbitrary and capricious change from agency practice” (emphasis added)).

More recently, in *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2126-27 (2016), the U.S. Supreme Court held that an agency can change course, but “the agency must at least display awareness that it is changing position and show that there are good reasons for the new policy.” Further, “[a]n unexplained inconsistency in agency policy is a reason for holding an interpretation to be an arbitrary and capricious change from agency practice.” And, “conclusory statements do not suffice to explain” an agency’s decision.

#### A. Improper Exclusion of the Two Most Stringent Available CWA ARARs

As required by §121(d) of CERCLA, remedial actions like the cleanup at ORR must attain ARARs.<sup>46</sup> The RA Decision found that determining PRGs for the effluent discharges from EMWMF and EMDF triggered a number of relevant and appropriate CWA requirements:

Under CWA §301, NPDES permits must contain effluent limitations based on the application of statutorily-prescribed levels of technology (“Technology-based effluent limits,” or “[\*]TBELs”). Where technology-based effluent limitations are not sufficient to meet applicable state water quality standards, NPDES permits must include effluent limitations that ensure that water quality standards are met (“water quality-based effluent limits,” or “WQBELs”). In other words, technology-based effluent limits constitute a minimum floor of controls that must be included in a permit, but they are supplemented by more stringent WQBELs whenever necessary to ensure compliance with water quality standards. The obligation that NPDES permits include effluent limitations as stringent as necessary to meet applicable water quality standards is not discretionary; it is inconsistent with the CWA for a permitting authority to issue a permit that does not ensure compliance with water quality standards. Additionally, TNWQS provide that in order to permit the reasonable and necessary uses of the waters of the State, pollution should be prevented through application of the best available technology economically achievable or that greater level of technology necessary to meet water quality standards. Furthermore, discharges from the ORR Site into surface waters must be protective of designated uses as classified by Tennessee. Bear Creek and its tributaries are designated for both “Fish and Aquatic Life” and “Recreation” uses. Where streams have multiple use designations, the most stringent water quality criteria will apply.<sup>47</sup>

Because the definition of “pollutant” in EPA’s CWA permitting regulations contains a carve-out for certain Atomic Energy Act-regulated radionuclides, the RA Decision determined that such regulations are not “applicable” requirements; at the same time, however, the RA Decision correctly determined that for purposes of identifying CERCLA ARARs, even though a requirement might not be “applicable,” it still may be “relevant and appropriate” (RAR).<sup>48</sup>

As indicated in the RA Decision, the NCP contains eight factors for evaluating whether a federal or more strin-

46. 42 U.S.C. §9621(d)(2). Pursuant to CERCLA §121(d)(4), an ARAR may qualify for a waiver in a limited number of narrow circumstances; however, the EMDF ROD does not explicitly include any ARAR waivers. *See* EMDF ROD, *supra* note 25, at 2-27.

47. RA Decision, *supra* note 6, at 7-8.

48. *Id.* at 5.

gent state requirement is “well suited” for purposes of identifying it as a RAR<sup>49</sup>:

In assessing whether a requirement is relevant and appropriate, EPA evaluates the factors in paragraphs 40 CFR §300.400(g)(2)(i) through (viii) of the NCP to the extent such factors are pertinent. The pertinence of each of the factors depends, in part, on whether a requirement addresses a chemical, location, or action. After careful consideration of the 40 CFR §300.400(g) factors, EPA Region 4 concludes that the CWA’s NPDES technology-based and water quality-based effluent limitation regulations, and the TNWQS, as generally described below and as more specifically identified in the table enclosed herein (Enclosure), are both relevant and appropriate to the discharge of radionuclides in waste water associated with these CERCLA actions because: (1) they address “point-source” discharges into surface water; (2) their purpose is to achieve the protection of surface waters; and (3) CERCLA also aims to address and prevent releases of hazardous substances, pollutants, and contaminants into the environment at unacceptable levels in order to ensure protection of human health and the environment.<sup>50</sup>

The RA Decision found five of the eight factors to be pertinent to the RAR evaluation. As a result, “EPA Region 4 concludes that the CWA’s NPDES technology-based and water quality-based effluent limitation regulations and TWQS are relevant and appropriate requirements to the discharge of radionuclide contaminated waste water at the ORR Site.”<sup>51</sup>

According to the NCP and the Agency’s interpretations of the statute and regulation found in the preamble to the final NCP, all four identified, available RARs are to be used in developing PRGs, including the regulations governing TBELs and antidegradation, which (as discussed below) are the most stringent RARs. The Wheeler Decision, however, disagreed with the RA Decision’s determinations that the CWA regulations addressing TBELs and the antidegradation requirement contained in the state’s water quality standards regulations are RARs, and improperly excluded them from the remedy selection process.<sup>52</sup> In effect, the Wheeler Decision waived these RARs without invoking a statutorily authorized waiver and without providing any data or facts justifying such a waiver.

As a result, the Wheeler Decision, the final FFS, and the EMDF ROD were all done in a manner that is not in accordance with CERCLA, the NCP, and appropriate guidance and policy.<sup>53</sup>

49. “Well suited” appears in the NCP’s definition of “relevant and appropriate requirements” in 40 C.F.R. §300.5.

50. RA Decision, *supra* note 6, at 6.

51. *Id.* at 8.

52. Pursuant to §121(d)(4), an ARAR may qualify for a waiver in a limited number of narrow circumstances; however, the Wheeler Decision, FFS, and EMDF ROD do not explicitly include any mention of ARAR waivers pursuant to this provision.

53. The Tennessee regulations establish 10-5 as the minimum floor for the ultimate cleanup level to be established in a ROD. As explained in the preamble

## 1. TBELs

The most obvious and egregious violations of the FFA flow directly from the Wheeler Decision’s legally flawed and unsupported interpretations and determinations regarding CERCLA and the CWA, as well as the regulations and policies implementing both statutes. Perhaps most striking was the conclusion in the Wheeler Decision that “CERCLA’s purpose is not aligned with the purpose of the CWA’s technology-based standards so consideration of Factor 1 does not support identification of CWA technology-based standards as relevant and appropriate here.”<sup>54</sup>

□ “*The purpose of the requirement and the purpose of the CERCLA action.*”<sup>55</sup> Unlike the CWA, CERCLA itself does not include an explicit congressional statement describing the overall policy and objectives of the legislation. However, CERCLA’s overarching goal and purpose—the protection of human health and the environment—is made evident by the inclusion of that phrase (or slight variations to it) on multiple occasions in the statute.<sup>56</sup> For example, in §104(a):

[T]he President is *authorized to act, consistent with the national contingency plan*, to remove or arrange for the removal of, and provide for remedial action . . . or take any other response measure consistent with the national contingency plan which the President deems necessary to *protect the public health or welfare or the environment.*

Similarly, pursuant to §106(a), the president has authority to issue administrative orders “as may be necessary *to protect public health and welfare and the environment.*” Further, §121(b) requires selection of remedial actions by the president (whether implemented by a federal agency or a private party) that are “*protective of human health and the environment,*”<sup>57</sup> and §121(c) obligates the president to review

to the NCP: “*Final remediation goals are determined in the remedy selection decision by balancing the major trade-offs among the alternatives based on the evaluation criteria (as described in §300.430(p)(l)(ii)), which will establish the specific level within the acceptable risk range the remedy will be designed to achieve.*” 55 Fed. Reg. 8666, 8729 (Mar. 8, 1990) (emphasis added). However, when developing *preliminary*—not final—remediation goals, the NCP sets 10-6 as the point of departure. A less stringent starting point does not represent a “more stringent state standard” for ARARs purposes (even though it may be in the risk range), and using a weaker point of departure (especially where more stringent RARs were clearly available) skips important remedy selection steps set forth in the NCP, including the appropriate development of a full range of alternatives per 40 C.F.R. §300.430(e) and (f).

54. Wheeler Decision, *supra* note 24, at 10.

55. 40 C.F.R. §300.400(g)(2)(i).

56. See H.R. REP. NO. 96-1016, at 17 (1980), *reprinted in* 1980 U.S.C.A.N. 6119 (CERCLA’s purpose is “to provide for a national inventory of inactive hazardous waste sites and . . . to protect public health and the environment from the dangers posed by such sites.”).

57. Section 121(b) also includes a number of other “general rules,” and requires consideration of a number of factors when selecting a protective remedial action. These factors largely have been translated in the NCP’s nine criteria for evaluating alternatives prior to publishing the Agency’s preferred alternative in a proposed plan. 40 C.F.R. §300.430(e)(9). Enforcement and settlement considerations—including keeping a potentially responsible party

those selected remedial actions every five years to “*assure that human health and the environment are being protected.*”

CERCLA’s overarching purpose also is repeated throughout the NCP, in policy positions and interpretations published in the preamble to the final NCP, and in numerous EPA CERCLA guidance documents. For example, the NCP states: “The national goal of the remedy selection process is to select remedies that are protective of human health and the environment, that maintain protection over time, and that minimize untreated waste.”<sup>58</sup>

For its part, the CWA begins with the following policy statement: “The objective of this chapter is to restore and maintain the chemical, physical and biological integrity of the Nation’s waters.”<sup>59</sup> EPA’s regulations make it clear that water quality standards developed under CWA authority are adopted “to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act,” which include providing “water quality for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water.”<sup>60</sup>

A closer alignment between the respective purposes of CERCLA and the CWA is hard to imagine, as recognized by this policy statement in NCP preamble language:

These [other] federal environmental and public health laws were enacted with the goal of protecting public health and the environment. Regulations developed under these laws have imposed requirements that EPA and other Federal agencies deemed necessary to protect public health and the environment. Because protection of public health and the environment is also the goal of CERCLA’s response actions, other Federal environmental and public health laws will normally provide a baseline or floor for CERCLA responses.<sup>61</sup>

That alignment is further underscored by EPA’s own long-standing CERCLA ARARs guidance, which highlights the fact that the CWA’s objective “is achieved through the control of discharges of pollutants to navigable

waters.”<sup>62</sup> That same EPA guidance goes on to state that the use of best available technology (BAT) “is the major national method of controlling the direct discharge of toxic and non-conventional pollutants to waters of the U.S.”<sup>63</sup>

EPA CWA guidance explains BAT’s role in the CWA regulatory scheme:

Technology-based effluent limitations (TBELs) aim to prevent pollution by requiring a minimum level of effluent quality that is attainable using demonstrated technologies for reducing discharges of pollutants or pollution into the waters of the United States. . . . The NPDES regulations at Title 40 of the *Code of Federal Regulations* (CFR) 125.3(a) require NPDES permit writers to develop technology-based treatment requirements, consistent with CWA section 301(b), that represent the minimum level of control that must be imposed in a permit. The regulation also indicates that permit writers must include in permits additional or more stringent effluent limitations and conditions, including those necessary to protect water quality.<sup>64</sup>

Thus, TBELs are normally assumed to provide the best way to achieve the CWA’s purposes, and the only reason to develop WQBELs is if TBELs based on BAT do not provide sufficient protection for public health and the environment.<sup>65</sup>

Finally, the Wheeler Decision’s determination that “CERCLA’s purpose is not aligned with the purpose of the CWA’s technology-based standards” turned its back on one of CERCLA §121’s important, specific mandates:

Remedial actions in which *treatment* which permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances, pollutants, and contaminants is a principal element, *are to be preferred over remedial actions not involving such treatment.*

\* \* \*

The *President shall select* a remedial action that is protective of human health and the environment, that is cost effective, and that *utilizes* permanent solutions and alternative *treatment technologies* or resource recovery technologies *to the maximum extent practicable.*<sup>66</sup>

(PRP) happy—are not included as statutory or NCP factors in the remedy selection process. This reflects the fact that ensuring protectiveness of human health and the environment in making a cleanup decision is separate and apart from enforcement and settlement considerations, and should not be influenced by them when dealing with DOE or a private PRP.

58. 40 C.F.R. §300.430(a)(1)(i).

59. FWPCA §101. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, U.S. EPA, CERCLA COMPLIANCE WITH THE CWA AND SDWA: QUICK REFERENCE FACT SHEET (1990) (OSWER No. 9234.2-06/FS), <https://semsub.epa.gov/work/HQ/174500.pdf> [hereinafter CERCLA COMPLIANCE WITH THE CWA AND SDWA].

60. 40 C.F.R. §131.2.

61. National Oil and Hazardous Substances Pollution Contingency Plan, 50 Fed. Reg. 47912, 47917 (Nov. 20, 1985). Even though all the statutes mentioned in the CERCLA §121(d)(2)(i) ARARs provision are federal regulatory statutes, the Wheeler Decision in its analysis of Factor 1 oddly relies in part on the fact that the CWA is a regulatory statute. The Wheeler Decision also seems oblivious to the Agency’s long-standing position in guidance that the CWA—just like other federal environmental and public health laws such as the Clean Air Act (CAA) and RCRA—is appropriate for use as ARARs at CERCLA sites. See OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, U.S. EPA, CERCLA COMPLIANCE WITH OTHER LAWS MANUAL: INTERIM FINAL (1988) (EPA/540/G-89/006), <https://semsub.epa.gov/work/HQ/174076.pdf> [hereinafter COMPLIANCE WITH OTHER LAWS MANUAL].

62. COMPLIANCE WITH OTHER LAWS MANUAL, *supra* note 61, at 3-3; see also CERCLA COMPLIANCE WITH THE CWA AND SDWA, *supra* note 59.

63. COMPLIANCE WITH OTHER LAWS MANUAL, *supra* note 61, at 3-4.

64. OFFICE OF WASTEWATER MANAGEMENT, U.S. EPA, NPDES PERMIT WRITERS’ MANUAL 5-1 (2010), [https://www.epa.gov/sites/default/files/2015-09/documents/pwm\\_2010.pdf](https://www.epa.gov/sites/default/files/2015-09/documents/pwm_2010.pdf) [hereinafter NPDES PERMIT WRITERS’ MANUAL].

65. “If TBELs are not sufficient to meet the water quality standards in the receiving water, the CWA (§303(b)(1)(c)) and NPDES regulations (40 CFR 122.44(d)) require that the permit writer develop more stringent, water quality-based effluent limits (WQBELs).” U.S. EPA, *Permit Limits—TBELs and WQBELs*, <https://www.epa.gov/npdes/permit-limits-tbels-and-wqbels> (last updated Oct. 3, 2022). As discussed above, this is correctly captured by the RA Decision.

66. 42 U.S.C. §9621(b) (emphasis added).



The Factor 1 discussion in the Wheeler Decision completely ignored key statutory and regulatory provisions, as well as EPA's related guidance and policy positions, all of which unequivocally support the conclusion that the CWA technology-based standards *are fully aligned* with CERCLA. From its implausible and unconvincing starting point for addressing TBELs, the Wheeler Decision went on to construct an even faultier foundation for the deficient FFS and defective EMDF ROD.

□ *Incorrect analysis of two other NCP factors for evaluating RARs.* As mentioned above, the definition of “pollutant” in 40 C.F.R. §122.2 does contain a carve-out for certain, enumerated Atomic Energy Act-regulated radionuclides. This limited carve-out acts as a jurisdictional prerequisite. The 2019 RA Decision correctly pointed out the following: “As explained in EPA’s ARARs guidance [a] requirement that is relevant and appropriate may “miss” on one or more jurisdictional prerequisites for applicability but still make sense at the site, given the circumstances of the site and release.”<sup>67</sup>

As part of its ARARs analysis, the RA Decision also correctly factored in the following EPA policy position included in the preamble to the final NCP: “[J]urisdictional prerequisites, while key in the applicability determination, are not the basis for relevance and appropriateness. Rather, the evaluation focuses on the purpose of the requirement, the physical characteristics of the site and the waste, and other environmentally- or technically-related factors.”<sup>68</sup>

Despite this clearly stated, long-standing interpretation by EPA of its own regulations when they were promulgated in 1990, the Wheeler Decision relied on the narrow jurisdictional prerequisite in the definition of “pollutant” to determine that TBELs are not RARs.

While the Wheeler Decision characterized the jurisdictional prerequisite language as an exemption for purposes of the fifth factor, the preamble to the final NCP in discussing the eight factors makes it clear that the exemptions referred to in this factor are those related to “specific circumstances where compliance with a requirement may be inappropriate for technical reasons or unnecessary to protect human health and the environment.”<sup>69</sup> The Wheeler Decision did not explain how either of these “specific circumstances” is present at ORR.

Given the use of ion exchange resin treatment technology by DOE already at ORR and at other DOE NPL sites, there are no “technical reasons” for eliminating TBELs as RARs. Nor are there any reasons to make use of TBELs “unnecessary to protect human health and the environment”; to the contrary, the known, serious risks posed by radionuclides weigh heavily in favor of using the BAT to develop stringent TBELs in order to protect the public using Bear Creek and its downstream waters in and

around ORR, which are designated by the state for “recreational use.”

Finally, by its express terms, the carve-out in the definition of “pollutant” in 40 C.F.R. §122.2 for certain Atomic Energy Act-regulated radionuclides is explicitly limited in application to only 40 C.F.R. Parts 122, 123, and 124. The plain language of EPA’s regulations does not extend this carve-out to other CWA regulations, such as 40 C.F.R. Part 125 (which addresses TBELs) and Part 131 (which includes water quality standards, use designation, and antidegradation provisions). The Wheeler Decision did not explain how it could unilaterally extend the scope of 40 C.F.R. §122.2 without engaging in a formal notice-and-comment rulemaking. Nor did it explain or justify why it arbitrarily and capriciously found the jurisdictional prerequisite language in the §122.2 definitions worthy of consideration for purposes of evaluating 40 C.F.R. Part 125 and *one* part of 40 C.F.R. Part 131—the antidegradation provision—but not for *two other* parts of 40 C.F.R. Part 131—the water quality standards and use designation provisions.

In sum, the Wheeler Decision’s incomplete and inaccurate interpretations of CERCLA and the CWA fundamentally misconstrued those statutes and their implementing regulations.<sup>70</sup> The end result of the fatally flawed analysis was to improperly exclude the CWA TBEL regulations from being used as RARs in the CERCLA remedy selection process, including the preparation of the FFS and the EMDF ROD.

The arbitrary and capricious actions taken by EPA and DOE in this regard violate the FFA since they are contrary to and “not in accordance with” the mandatory, non-discretionary duty in CERCLA to meet all ARARs; they are also inconsistent with and “not in accordance with” the NCP and existing, long-standing EPA CERCLA guidance and policy, which call for using the most stringent available ARARs in the remedy selection process.

## 2. Antidegradation

As discussed above, the primary goal of the CWA is to “restore and maintain the chemical, physical and biological integrity of the Nation’s waters.”<sup>71</sup> According to EPA’s long-standing policy position: “Under the Clean Water Act (CWA), once the existing uses of a water body have been established—by evaluating the water’s quality relative to uses already attained—a State/Tribe must maintain the level of water quality that has been identified as being necessary to support those existing uses.”<sup>72</sup>

One of the key mechanisms to achieve this objective is the antidegradation policy. EPA CWA regulations in 40

67. RA Decision, *supra* note 6, at 5-6.

68. 55 Fed. Reg. 8666, 8743 (Mar. 8, 1990) (emphasis added).

69. *Id.* at 8744.

70. Unfortunately, this is not the only recent example of a flawed EPA interpretation based on a “fundamental misconstruction” of an important federal statute the Agency is responsible for administering. See *American Lung Ass’n v. Environmental Prot. Agency*, No. 19-1140, at 16, 51 ELR 20009 (D.C. Cir. Jan. 19, 2021).

71. FWPCA §101.

72. U.S. EPA, *Key Concepts Module 4: Antidegradation*, <https://www.epa.gov/wqs-tech/key-concepts-module-4-antidegradation> (last updated Mar. 7, 2022).

C.F.R. §131 require a state to have an antidegradation provision in order to administer the CWA NPDES program.<sup>73</sup> EPA addressed antidegradation provisions in the context of ARARs in its preamble to the final NCP as follows:

EPA believes, however, that general goals, such as non-degradation laws, can be potential ARARs if they are promulgated, and therefore legally enforceable, and if they are directive in intent.

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For example, in the preamble to the proposed NCP, EPA cited the example of a state anti-degradation statute that prohibits the degradation of surface water below a level of quality necessary to protect certain uses of the water body (53 FR 51438). If promulgated, such a requirement is clearly directive in nature and intent. State regulations that designate uses of a given water body and state water quality standards that establish maximum in-stream concentrations to protect those uses define how the antidegradation law will be implemented are, if promulgated, also potential ARARs.<sup>74</sup>

Nonetheless, the Wheeler Decision overturned the RA Decision's determination that the state's regulations implementing the antidegradation policy are RARs:

Based on the consideration of factors 1, 3 and 5 described above, I also have determined that, for radionuclides only, Tennessee's anti-degradation policy is not relevant or appropriate to apply to the CERCLA remedy for discharges of radionuclides from the ORR landfills. Bear Creek is currently impaired due to PCBs and mercury and is not an outstanding natural resource water. And, as provided in this decision, no discharges from an ORR landfill subject to CERCLA will impair water quality. Accordingly, the anti-degradation policy is neither relevant nor appropriate to discharges of radionuclides. Of course, it remains legally applicable to discharges of CWA pollutants, such as mercury.<sup>75</sup>

The Wheeler Decision's determination ignored the fact that EPA's own CWA regulations *require* a state to adopt an antidegradation provision, and disregarded the NCP preamble language specifically recognizing that promulgated antidegradation provisions like the one found in Tennessee's regulations are potential ARARs.<sup>76</sup> In fact, long-standing EPA CERCLA guidance makes it clear that "[t]he objectives of the antideg-

radation policy are to: Protect existing uses of waters"<sup>77</sup>; the policy does not apply solely to "outstanding natural resource water."

Without specifically addressing or explaining why the purpose of an antidegradation provision required by EPA is not aligned or consistent with the purpose of a CERCLA cleanup, the Wheeler Decision decided that this portion of the state's water quality regulations is not "well suited" to be a RAR for radionuclides, but is "applicable"—not just well suited to be a RAR—for other pollutants like PCBs and mercury. In so doing, it arbitrarily created preferential treatment for radionuclides without providing any scientifically sound, data-driven evidence to show that risks to human health from radionuclides are any different from those posed by mercury, PCBs, and other pollutants.<sup>78</sup>

The Wheeler Decision's determination that the state's antidegradation provision is not relevant and appropriate also relied on the same jurisdictional prerequisite basis used in the TBELs determination, an approach directly contradicted by EPA's long-standing policy position. Further, as discussed above, the jurisdictional prerequisite language in the definition of "pollutant" in 40 C.F.R. §122.2 by its own explicit terms does not apply to 40 C.F.R. §131, the part of the CWA regulations where the antidegradation requirement is found. Even if it did, the NCP preamble makes it clear that jurisdictional prerequisite language is not a factor in evaluating whether the antidegradation provision is a RAR.

In addition, the Wheeler Decision stated that "Bear Creek is currently impaired due to PCBs and mercury and is not an outstanding natural resource water." Reliance on this logic is not consistent with EPA's CWA regulations (e.g., 40 C.F.R. §131.12). In fact, the Wheeler Decision inappropriately stands for the proposition, contrary to EPA and Tennessee regulations, that once there is impairment of water quality caused by a pollutant (e.g., PCBs or mercury), that acts as a green light for allowing degradation by other CERCLA hazardous substances (e.g., radionuclides), pollutants, or contaminants. No basis grounded in the CWA's regulations or in the NCP's eight factors is provided for this approach.

Contamination in Bear Creek and groundwater in Bear Creek Valley from DOE's ongoing and past polluting actions at Y-12 generally and as a result of EMWMF's operations specifically are well-documented in annual reports.<sup>79</sup> That contamination has created the current situ-

73. According to EPA guidance: "Before permitting degradation for point sources, the State/Tribe *must ensure that the most stringent technology-based controls required by statute and regulation will be implemented.*" *Id.* (emphasis added). Normally, TBELs would provide the basis for implementing the most stringent technology-based controls.

74. 55 Fed. Reg. at 8746.

75. Wheeler Decision, *supra* note 24, at 11.

76. See also COMPLIANCE WITH OTHER LAWS MANUAL, *supra* note 61, ch. 3; CERCLA COMPLIANCE WITH THE CWA AND SDWA, *supra* note 59.

77. COMPLIANCE WITH OTHER LAWS MANUAL, *supra* note 61, at 3-14. Bear Creek is already impacted by EMWMF operations and by other DOE activities in the Y-12 portion of ORR.

78. EPA's long-standing guidance makes it clear that the risks to human health and the environment from radionuclides are comparable to the risks to human health and the environment from other hazardous substances (e.g., chemicals, metals, etc.), and should be addressed in a consistent manner (e.g., use of NCP's risk range for carcinogens). See, e.g., U.S. EPA, *Preliminary Remediation Goals for Radionuclides (PRG)*, [https://epa-prgs.ornl.gov/cgi-bin/radionuclides/rprg\\_search](https://epa-prgs.ornl.gov/cgi-bin/radionuclides/rprg_search) (last updated July 24, 2020).

79. See, e.g., DOE, OAK RIDGE RESERVATION ANNUAL SITE ENVIRONMENTAL REPORT 2016 (2017), <https://doec.science.energy.gov/aser/aser2016/index.html>.

ation where the existing designated use for Bear Creek is not being maintained and protected; any lowering of water quality, therefore, is not permitted.

In addition, as a policy matter, allowing those polluting actions that have impaired water quality to be taken into consideration runs counter to EPA guidance regarding suppression effects: “Environmental standards utilizing suppressed rates may contribute to a scenario in which future aquatic environments will support no better than suppressed rates.”<sup>80</sup>

In the end, no credible basis using the NCP factors was provided in the Wheeler Decision for finding that the anti-degradation provision is not well suited for the purposes of establishing PRGs and cleanup levels for the 20-odd radionuclides associated with landfill wastewater discharges from EMWMF and EMDF into Bear Creek. Rather, the Wheeler Decision’s RARs determination again relied on the same fatally flawed analysis—mischaracterizing the fundamental purposes and objectives of two major federal environmental laws EPA is responsible for administering and contradicting EPA’s long-standing policy regarding the role of jurisdictional prerequisites in the NCP’s eight-factor test—used in the evaluation of TBELs. For the same reasons discussed above, this resulted in the improper exclusion of the state regulations’ antidegradation provision from being used as RARs in the CERCLA remedy selection process.

As with other recent interpretations of the CWA, the Wheeler Decision’s unsupported approach to CWA RARs violates the FFA and “is neither persuasive nor reasonable.”<sup>81</sup>

### B. Substantial Weakening and Undermining of Two Other Important CWA ARARs

After the Wheeler Decision indefensibly eliminated the two most stringent CWA RARs,<sup>82</sup> it then undermined the remaining CWA RARs identified by the RA Decision when it gave DOE a green light to disregard EPA’s long-

standing, published national guidance related to development of water quality criteria, which serve as the basis for determining WQBELs for wastewater discharges.<sup>83</sup>

No attempt was made in the Wheeler Decision or subsequent documents to explain why the NCP factors used to impermissibly exclude two CWA requirements would not also apply to the two remaining CWA requirements. Neither did the Wheeler Decision explain why all four of the CWA requirements would be considered as RARs for developing PRGs for wastewater discharges of PCBs, mercury, and uranium (a metal in addition to being a radionuclide), but only the two weaker CWA RARs would be considered as RARs for radionuclides; as discussed above, EPA’s long-standing and oft-repeated policy position has consistently been that radionuclides and other hazardous substances should be addressed in the same manner due to comparable risks (e.g., excess cancer risk) to human health and the environment.<sup>84</sup> These unexplained, unsupported internal inconsistencies and how they have been implemented in the FFS and the EMDF ROD have resulted in a selected remedial action that violates the FFA, is arbitrary and capricious, and does not meet mandatory, non-discretionary duties set forth in CERCLA.

Against the backdrop of CERCLA’s mandates, the requirements in the NCP implementing them, and long-standing policies stated in the preamble to the final NCP and various guidance documents, the clearest weakening and undermining of the two remaining CWA RARs—the water quality criteria regulations and the state’s designated use for Bear Creek—and the resulting detrimental impact on protection of human health and the environment are manifested in the EMDF ROD’s decision to select a fish consumption rate (FCR) of 17.5 grams per day (g/day) and an exposure duration of 26 years when developing the PRGs to be used for setting final effluent discharge limits for radionuclides; those limits are to be established at some unspecified time in the future.

80. OFFICE OF WATER, U.S. EPA, GUIDANCE FOR CONDUCTING FISH AND WILDLIFE CONSUMPTION SURVEYS (1998) (EPA-823-B-98-007), <https://www.epa.gov/sites/default/files/2019-04/documents/guidance-conducting-fish-wildlife-consumption-surveys-1998.pdf>. See also U.S. EPA, HUMAN HEALTH AMBIENT WATER QUALITY CRITERIA AND FISH CONSUMPTION RATES: FREQUENTLY ASKED QUESTIONS (2013), <https://www.epa.gov/sites/default/files/2015-12/documents/hh-fish-consumption-faqs.pdf> [hereinafter HUMAN HEALTH AMBIENT WATER QUALITY CRITERIA AND FISH CONSUMPTION RATES] (“It is also important to avoid any suppression effect that may occur when a fish consumption rate for a given subpopulation reflects an artificially diminished level of consumption for that subpopulation because of a perception that fish are contaminated with pollutants.”).

81. See *County of Maui v. Hawaii Wildlife Fund*, 140 S. Ct. 1462, 50 ELR 20102 (2020).

82. Improperly eliminating the more stringent TBELs and antidegradation RARs also calls into question the viability of the Wheeler Decision’s identification of certain less stringent Nuclear Regulatory Commission (NRC) regulations as RARs when developing PRGs for the effluent discharge limits. See Wheeler Decision, *supra* note 24, at 7, 12. While it theoretically might be possible to apply the NRC regulations in a manner that would establish equally stringent PRGs to those based on TBELs (i.e., through apportionment among pathways and by using the ALARA—“as low as reasonably achievable”—approach), the EMDF ROD, *supra* note 25, at 2-75, does not do so when it relies in part on these NRC regulations.

83. The Wheeler Decision stated that “EPA will not require use of default exposure assumptions from CWA guidance documents regarding fish consumption to develop PRGs, or any other default assumptions that are in dispute, such as ingestion.” Wheeler Decision, *supra* note 24, at 2. Similarly, the Wheeler Decision stated that “I also have determined that the disputed default exposure assumptions, particularly those regarding fish consumption, in CWA guidance document should not be used to develop PRGs for effluent limits for discharges from ORR landfills.” *Id.* at 10. And it stated: “Thus, I have determined that the process for identifying the PRGs will *not* use default exposure assumptions from CWA guidance documents to determine exposures to radionuclides discharged from landfills at ORR, particularly through fish consumption.” *Id.* at 11.

84. Rationally, either the purpose behind all four CWA regulations identified by the RA Decision as RAR is aligned with CERCLA and well suited to develop PRGs and cleanup levels for effluent discharges coming from the ORR landfills, or it is not. Similarly, either the jurisdictional prerequisite in the definition of “pollutant” works to exclude all of those CWA RARs, or it does not. There is no rational basis for splitting the baby in half as the Wheeler Decision did, and none has been articulated in the Wheeler Decision or in any subsequently developed document.

## 1. WQBELS

As explained in EPA CWA guidance:

WQBELS are designed to protect water quality by ensuring that water quality standards are met in the receiving water. On the basis of the requirements of Title 40 of the Code of Federal Regulations (CFR) 125.3(a), additional or more stringent effluent limitations and conditions, such as WQBELS, are imposed *when TBELs are not sufficient to protect water quality*.<sup>85</sup>

Thus, under the CWA, WQBELS are established at levels that are more—not less—stringent than technology-based limits, when technology-based limits are not sufficient to ensure compliance with water quality standards.<sup>86</sup> Nothing in the CWA, its regulations, or implementing guidance suggests it might be appropriate to use weaker WQBELS when protective TBELs are achievable using BAT.

There is nothing in the Wheeler Decision, the FFS, or EMDF ROD to suggest or support a finding that using TBELs and/or the antidegradation regulations would not be “sufficient to protect water quality.” In fact, both of those RARs would lead to more stringent, protective PRGs compared to the ones presented in the FFS and selected in the EMDF ROD.

After improperly eliminating the TBELs and antidegradation RARs, the Wheeler Decision did determine that certain CWA regulations are relevant and appropriate, including the state’s “Water Quality Criteria regulations that are used to establish Ambient Water Quality Criteria to protect the designated uses established by Tennessee’s Water Quality Standards regulations from pollutants that are carcinogens.”<sup>87</sup>

To help states like Tennessee implement CWA statutory and regulatory requirements, the Agency has published a number of national guidance documents.<sup>88</sup> The Tennessee regulation identified as a RAR in the Wheeler Decision and in the EMDF ROD (i.e., TDEC Rule 0400-40-03-.02(10)) specifically requires that “[i]nterpretation and application of narrative criteria shall be based on available scientific literature and EPA guidance and regulations.” The

narrative criteria “for the use of Recreation” covered by this requirement appear subsequently in the same regulation.<sup>89</sup>

Despite the FFA’s clear instruction to act “in accordance with . . . appropriate guidance and policy, and in accordance with Tennessee state law,” the Wheeler Decision arbitrarily overrode this portion of the state RAR when it excused DOE from following long-standing national CWA guidance documents when calculating PRGs for radionuclides (but not for PCBs and mercury). As discussed above,<sup>90</sup> under prevailing case law, deviations from existing agency guidance require a reasoned explanation, as well as credible supporting data and information. No explanation or credible supporting data and information for the deviations from existing national EPA guidance was provided in the Wheeler Decision, and none has been provided in the FFS and EMDF ROD.<sup>91</sup>

□ *FCR*. In 2014, EPA updated its national default FCR guidance from 17.5 g/day to 22 g/day. This FCR represents the 90th percentile consumption rate of fish and shellfish from inland and nearshore waters for the U.S. adult population 21 years of age and older, based on National Health and Nutrition Examination Survey data from 2003 to 2010.<sup>92</sup> In that same 2014 FCR guidance update, EPA set the inland south FCR—which includes the state of Tennessee—at 22.8 g/day.<sup>93</sup> As a related matter, a site-specific study focused on recreational fishing around ORR found that the FCR is 37 g/day.<sup>94</sup> Finally, the cur-

85. NPDES PERMIT WRITERS’ MANUAL, *supra* note 64, at 6-1 (emphasis added). For the permit exemption in CERCLA §121(e)(1) to apply at a Superfund site, the remedy selection process set forth in the NCP culminating in a ROD in theory can take the place of the CWA process resulting in the issuance of an NPDES permit.

86. See 33 U.S.C. §1311(b)(1)(A) and (C). In this case, the Wheeler Decision arbitrarily and incorrectly took TBELs off the table, thereby skewing the structure established by the CWA, its implementing regulations, and associated EPA guidance.

87. Wheeler Decision, *supra* note 24, at 2. EPA has delegated federal CWA §402 authority to the state.

88. These include: NPDES PERMIT WRITERS’ MANUAL, *supra* note 64; OFFICE OF WATER, U.S. EPA, METHODODOLOGY FOR DERIVING AMBIENT WATER QUALITY CRITERIA FOR THE PROTECTION OF HUMAN HEALTH (2000) (EPA-822-B-00-004), <https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf> [hereinafter METHODOLOGY FOR DERIVING AMBIENT WATER QUALITY CRITERIA FOR THE PROTECTION OF HUMAN HEALTH]; HUMAN HEALTH AMBIENT WATER QUALITY CRITERIA AND FISH CONSUMPTION RATES, *supra* note 80.

89. Apart from the resulting FFA violations, this failure to comply with Tennessee law calls into question the NPDES §402 permits the state issues under its delegated CWA program (which is outside the scope of this Article).

90. See *supra* note 45.

91. One court found:

Although the arbitrary and capricious standard of review is deferential, the court will “intervene to ensure that the agency has examine[d] the relevant data and articulate[d] a satisfactory explanation for its action. Where the agency has failed to provide a reasoned explanation, or where the record belies the agency’s conclusion, we must undo its action.”

*BellSouth Corp. v. Federal Commc’ns Comm’n*, 162 F.3d 1215, 1221-22 (D.C. Cir. 1998). It is important to have those reasoned explanations in place when the agency acts, not for the first time in briefs. As the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit stated in *Wedgewood Village Pharmacy v. Drug Enforcement Administration*, 509 F.3d 541, 550 n.13 (D.C. Cir. 2007):

Of course, its [DEA’s] argument comes too late. “A reviewing court, in dealing with a determination or judgment which an administrative agency alone is authorized to make, must judge the propriety of such action solely by the grounds invoked by the agency. If those grounds are inadequate or improper, the court is powerless to affirm the administrative action by substituting what it considers to be a more adequate or proper basis.” *SEC v. Chenery Corp.*, 332 U.S. 194, 196, 67 S. Ct. 1575, 91 L. Ed. 1995 (1947); see also *Owner-Operator Indep. Drivers Ass’n, Inc. v. Fed. Motor Carrier Safety Admin.*, 494 F.3d 188, 204 n.4 (D.C. Cir. 2007) (“[W]e cannot affirm [the agency decision] on the basis of a post-hoc explanation by agency counsel.”).

92. U.S. EPA, ESTIMATED FISH CONSUMPTION RATES FOR THE U.S. POPULATION AND SELECTED SUBPOPULATIONS (NHANES 2003-2010): FINAL REPORT (2014) (EPA-820-R-14-002), <https://www.epa.gov/sites/default/files/2015-01/documents/fish-consumption-rates-2014.pdf>.

93. *Id.* tbl.9(b). The PRG Calculator’s default values for both FCR and exposure duration are found in Table K.1.15 of Appendix K of the final approved FFS.

94. Joanna Burger & Kym Rouse Campbell, *Fishing and Consumption Patterns of Anglers Adjacent to the Oak Ridge Reservation, Tennessee: Higher Income Anglers Ate More Fish and Are More at Risk*, 11 J. RISK RSCH. 335 (2008).

rent FCR default values in EPA's PRG Calculator—the CERCLA guidance that the EMDF ROD says is being used as the basis for its calculations—are even higher.<sup>95</sup>

Despite this, the EMDF ROD, relying on the green light provided in the Wheeler Decision, selected an FCR of 17.5 g/day.<sup>96</sup> The EMDF ROD, signed by the state, identifies this FCR as the one being used by the state of Tennessee<sup>97</sup>; while that might have been true and appropriate in the past before EPA issued its updated national FCR guidance in 2014, the old FCR is based on out-of-date EPA guidance and is no longer scientifically sound, and importantly for purposes of evaluating FFA violations, is not “in accordance with . . . appropriate guidance and policy” and is not “in accordance with Tennessee law.”<sup>98</sup>

Further, the 2014 EPA FCR guidance is a peer-reviewed product based on the most current, credible science. The information presented in the FFS (Appendix K) and EMDF ROD suggesting that an FCR even lower than 17.5 g/day might be appropriate includes sampling locations and methodologies (e.g., point of exposure) that have not been peer-reviewed and, contrary to Tennessee law, are inconsistent with EPA guidance<sup>99</sup> and “available scientific literature.”<sup>100</sup>

□ *Exposure duration: 70 years versus 26 years.* The purpose for using a lifetime exposure (70 years) assumption to ensure protection of human health and the environment is explained in EPA CWA guidance as follows:

AWQC [ambient water quality criteria] for the protection of human health are designed to minimize the risk of adverse effects occurring to humans from chronic (lifetime) exposure to substances through the ingestion of drinking water and consumption of fish obtained from surface waters. . . . Although the AWQC are based on chronic health effects data (both cancer and noncancer effects), the criteria are intended to also be protective against adverse effects that may reasonably be expected to occur as a result of elevated acute or short-term exposures. That is, through the use of conservative assumptions with respect to both toxicity and exposure parameters, the resulting AWQC should provide adequate protection not only for the general population over a lifetime of exposure, but also for special subpopulations who, because of high water- or fish-intake rates, or because of biological sensitivities, have an increased risk of receiving a dose that would elicit adverse effects. The Agency recognizes that there may be some cases where the AWQC based on

chronic toxicity may not provide adequate protection for a subpopulation at special risk from shorter-term exposures. The Agency encourages States, Tribes, and others employing the 2000 Human Health Methodology to give consideration to such circumstances in deriving criteria to ensure that adequate protection is afforded to all identifiable subpopulations.<sup>101</sup>

The use of a 70-year lifetime exposure assumption is explained further in EPA CWA guidance as follows:

This approach is consistent with a principle that every State does its share to protect people who consume fish and shellfish that originate from multiple jurisdictions. In addition, the *goal of water quality criteria for human health is to protect people from exposure to pollutants through fish and water over a lifetime, and the goal of a State's designated use should be that the waters are safe to fish in the context of the total consumption pattern of its residents.* Likewise, because people are expected to continue consuming fish and shellfish throughout their lifetime regardless of where they live, and this consumption leads to similar exposure to pollutants, it is appropriate to derive protective human health criteria in State and Tribal water quality standards assuming a lifetime of exposure.<sup>102</sup>

Thus, as described in EPA's long-standing, national guidance, the purpose of using a lifetime exposure of 70 years<sup>103</sup> is to protect the general population—not just those who live near Oak Ridge for 26 years—since people can (and often do) fish anywhere in the country, not just in Bear Creek; critically, that is the underlying policy position supporting the Agency's long-standing use of this exposure parameter.<sup>104</sup> Those who catch fish in Bear Creek, regardless of where they reside, are to be protected the same way they are protected if they fish in other surface waters in Tennessee or in other states.

Instead of using the “lifetime” default exposure assumption of 70 years found in EPA guidance, the FFS and EMDF ROD use an exposure assumption of 26 years, which is the residential use default assumption used for Superfund risk assessments.<sup>105</sup> Despite the reasons provided in EPA CWA

95. U.S. EPA, *supra* note 78.

96. EMDF ROD, *supra* note 25, at 2-67 and 2-68.

97. *Id.*

98. If the state indeed is still using the no longer valid FCR in its delegated CWA program, that raises a number of legal issues and vulnerabilities that are outside the scope of this Article.

99. See, e.g., OFFICE OF WATER, U.S. EPA, GUIDANCE FOR CONDUCTING FISH CONSUMPTION SURVEYS (2016), [https://19january2021snapshot.epa.gov/fish-tech/guidance-conducting-fish-consumption-surveys\\_.html](https://19january2021snapshot.epa.gov/fish-tech/guidance-conducting-fish-consumption-surveys_.html).

100. TENN. COMP. R. & REGS. 0400-40-03-.02(10).

101. METHODOLOGY FOR DERIVING AMBIENT WATER QUALITY CRITERIA FOR THE PROTECTION OF HUMAN HEALTH, *supra* note 88, at 1-10.

102. HUMAN HEALTH AMBIENT WATER QUALITY CRITERIA AND FISH CONSUMPTION RATES, *supra* note 80 (emphasis added).

103. See U.S. EPA, EXPOSURE FACTORS HANDBOOK ch. 18 (2011 ed.) (EPA/600/R-09/052F), <https://www.epa.gov/sites/default/files/2015-09/documents/efh-chapter18.pdf>.

104. “In such cases it is not that further justification is demanded by the mere fact of policy change; but that a reasoned explanation is needed for disregarding facts and circumstances that underlay or were engendered by the prior policy.” Federal Commc'ns Comm'n v. Fox Television Stations, 556 U.S. 502, 515-16 (2009).

105. Using a CERCLA residential use assumption is particularly odd here since no one lives in or adjacent to Bear Creek, and it is inconsistent with long-standing EPA guidance related to consideration of current and future land use when making CERCLA remedy selection decisions. See Memorandum from Elliott P. Laws, Assistant Administrator, U.S. EPA, to Director, Waste Management Division, EPA Regions I, IV, V, VII et al., re Land Use in the CERCLA Remedy Selection Process (May 25, 1995), <https://www.epa.gov/sites/default/files/documents/landuse.pdf>; Memorandum from James

guidance for using the lifetime exposure assumption of 70 years and how that assumption ensures protection of recreational users (local and visiting) of Bear Creek for purposes of the CWA RAR, no rationale is provided in the FFS or EMDF ROD explaining how PRGs based on 26 years of exposure results in the same level of protection of human health for those recreational users of Bear Creek.<sup>106</sup> Nor is there any attempt made to explain why it is appropriate to use a 70-year lifetime exposure assumption to derive WQBELs for mercury and PCBs in Bear Creek, but only a 26-year exposure assumption to derive WQBELs for radionuclides, when all these pollutants are carcinogenic, toxic, and bioaccumulative.<sup>107</sup>

Like the lack of consistency and reasoned basis for eliminating two CWA regulations as RARs while identifying two other CWA regulations as RARs, no sound scientific basis has been articulated and supported in the Wheeler Decision, the FFS, or the EMDF ROD for using different FCRs and exposure duration assumptions for radionuclides on the one hand and PCBs and mercury on the other.

## 2. “Fully Protect the Designated Use”

The federal CWA regulations (which the state effectively implements through its own regulations) include a legal requirement to “[e]stablish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria *and will fully protect the designated use.*”<sup>108</sup> EPA’s CWA regulations also require the adoption of water quality criteria “that protect the designated use” and water quality standards that

E. Woolford, Director, EPA Office of Superfund Remediation and Technology Innovation, to Superfund National Program Managers, U.S. EPA Regions 1-10, re Considering Reasonably Anticipated Future Land Use and Reducing Barriers to Reuse at EPA-Lead Superfund Remedial Sites (Mar. 17, 2010), <https://semspub.epa.gov/work/HQ/175563.pdf>. Like the incorrect selection of 17.5 g/day as the FCR, using a 26-year exposure duration assumption is not “in accordance with . . . appropriate guidance and policy” and is not “in accordance with Tennessee law.”

106. Nor does the expected 20-year operational life of the EMDF landfill—included in Table K.1.15 of Appendix K of the FFS showing the assumptions used in calculating PRGs—have any bearing on the purpose for assuming a lifetime of exposure for users of a stream designated by the state for recreational use. Radionuclides in the ORR landfills are transported throughout Bear Creek into downstream waters, and do not disappear after 20 years.

107. The failure to include a rationale is significant. “In such cases it is not that further justification is demanded by the mere fact of policy change; but that a reasoned explanation is needed for disregarding facts and circumstances that underlay or were engendered by the prior policy.” *Fox Television Stations*, 556 U.S. at 515-16.

108. 40 C.F.R. §122.44(d)(l)(vi)(A) (emphasis added). The corresponding state regulation is TDEC Rule 0400-40-03-.03, Criteria for Water Uses, which includes:

(4) The criteria for the use of Recreation are the following.

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(j) Toxic substances—The waters shall not contain toxic substances, whether alone or in combination with other substances, that will render the waters unsafe or unsuitable for water contact activities including the capture and subsequent consumption of fish and shellfish, or will pose toxic conditions that will adversely affect man, animal, aquatic life, or wildlife. Human health criteria have been derived to protect the consumer from consumption of contaminated fish and water. . . .

TENN. COMP. R. & REGS. 0400-40-03-.03.

“provide for the attainment and maintenance of the water quality standards of downstream waters.”<sup>109</sup> Even though none of these CWA regulations have been waived pursuant to CERCLA §121(d)(4), the actions by EPA and DOE—starting with the Wheeler Decision and culminating with the EMDF ROD—have led to a result that does not attain these legal requirements.

CERCLA does not provide legal authority for DOE to sacrifice Bear Creek by diluting landfill wastewaters along miles of its waters. Nor does the statute provide authority for the federal government, under the guise of a cleanup, to unilaterally override a state’s use designation promulgated pursuant to the state’s CWA-delegated authority; consistent with EPA’s CWA regulations, only the state can change the designated use of the creek, and it has chosen not to do that. Yet the PRGs—which are based on a contrived site-specific risk assessment approach using inappropriately elevated inputs for FCR and exposure duration—and the remedy selected in the EMDF ROD downgrade the state’s promulgated recreational use designation by allowing local and visiting fishermen using Bear Creek and downstream waters it feeds to be exposed to much higher levels of radionuclides. Together with the unaddressed, ongoing untreated releases from the existing unpermitted EMWFM landfill, the Wheeler Decision and the current Administrator’s signature on the EMDF ROD allow DOE, a federal agency polluter, to continue to degrade Bear Creek and then use that degradation to further impair water quality and put recreational users at higher risk.

There is nothing in the Wheeler Decision, the FFS, or the EMDF ROD that justifies why recreational users of Bear Creek and downstream waters should get less than the full protection required by law when compared to users of other water bodies in Tennessee and other states. Nor is there any justification for giving radionuclides preferential treatment when addressing discharges of landfill wastewater also containing other pollutants that are equally toxic, carcinogenic, and bioaccumulative.

## C. Failure to Use Treatment “to the Maximum Extent Practicable”

As mentioned above, CERCLA §121(b) includes a preference for selecting remedial actions using treatment to the maximum extent practicable, and requires the president (here DOE) to provide an explanation if such treatment is not incorporated into the remedial action.

The NCP implements this requirement through a number of provisions. For example, one of the nine criteria used to evaluate alternatives is the “reduction of toxicity, mobility, or volume through treatment.”<sup>110</sup> And as explained in

109. 40 C.F.R. §§131.10 and 131.11.

110. *Id.* §300.430(e)(9)(iii)(D). As stated in long-standing EPA guidance, “[t]his evaluation criterion addresses the statutory preference for selecting remedial actions that employ treatment technologies that permanently and significantly reduce toxicity, mobility, or volume of the hazardous substances as their principal element.” OFFICE OF EMERGENCY AND REMEDIAL RESPONSE,

the preamble to the final NCP: “However, consistent with CERCLA, *treatment remains the preferred method of attaining protectiveness*, wherever practicable.”<sup>111</sup>

As noted in the RA Decision:

Considering these requirements as relevant and appropriate will help ensure a protective effluent level based upon technologies (including ion exchange, activated carbon and/or reverse osmosis technology) that are available and achievable and have proven to be effective in controlling the discharge and meeting water quality criteria.<sup>112</sup>

TDEC also has pointed out how the CERCLA treatment requirement can be met:

A version of ion exchange treatment using media such as resins is the generally accepted approach for removing radiological constituents prior to discharge. DOE has and continues to use such wastewater treatment methods across the ORR and can lead the discussion of appropriate treatment media for radionuclides projected to be disposed in the EMDF.

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Active treatment of all landfill wastewater is necessary to meet the CERCLA criterion requiring reduction of toxicity, mobility, or volume through treatment. A commitment to treat the landfill wastewater in this manner would protect Bear Creek and people who use the stream for its designated recreational use, including the consumption of fish caught downstream of EMDF.<sup>113</sup>

The FFS does not present and evaluate an alternative that employs ion exchange (or other comparable) treatment technology to the maximum extent practicable. While the EMDF ROD acknowledges that treatment of landfill wastewater (including contact water) is a critical element of the cleanup, and indicates that some form of treatment (i.e., “flocculation and chemical precipita-

tion”) would be used for discharges from EMDF,<sup>114</sup> it does not mention or select the use of ion exchange treatment technology for the contact water discharges that would flow into Bear Creek.

Given the ready availability of ion exchange resin technology and DOE’s ongoing use of it at ORR and its other facilities, there is no question that it is a practicable treatment approach for wastewater discharges from the ORR landfills. Yet, it has not been fully evaluated in the FFS as part of the NCP’s alternatives analysis and no explanation and documentation have been provided (as required by CERCLA §121(b)) showing why it is not part of the remedial action selected by the EMDF ROD.

Further, the use of ion exchange treatment technology would lead to effluent discharge limits that would be orders of magnitude more stringent than the values in Table 2-9 of the EMDF ROD<sup>115</sup>; consistent with the Agency’s 1990 preamble to the final NCP, more stringent values that can be achieved through use of treatment technology to the maximum extent practicable represent a baseline for evaluating protectiveness of human health and the environment. By not using the best available treatment (ion exchange) technology for contact water discharges, the EMDF ROD does not satisfy CERCLA’s treatment mandate<sup>116</sup> and does not ensure protectiveness of human health and the environment, as required by CERCLA §121.

#### D. Failure to Ensure Protectiveness of Human Health and the Environment

CERCLA §121 contains a separate, independent mandatory duty to select remedial actions that ensure protectiveness of human health and the environment.<sup>117</sup> As noted above, the preamble to the final NCP discusses how two other mandates—attaining ARARs and using treatment technology—both play an important role in making sure this mandate is met. By adding objective mandates—requiring the use of existing, promulgated standards from other environmental laws and regulations, as well as the use of treatment technologies to the maximum extent practicable—in the 1986 amendments, the U.S. Congress brought CERCLA in line with the other major federal environmental laws that

U.S. EPA, GUIDANCE FOR CONDUCTING REMEDIAL INVESTIGATIONS AND FEASIBILITY STUDIES UNDER CERCLA 6-8 (1988) (EPA/540/G-89/004), <https://bit.ly/2FCzEz0> [hereinafter GUIDANCE FOR CONDUCTING RI/FS].

111. 55 Fed. Reg. 8666, 8703 (Mar. 8, 1990) (emphasis added).

112. RA Decision, *supra* note 6, at 6-7.

113. Letter from Randy Young, FFA Manager, TDEC, to Roger Petrie, FFA Manager, DOE Oak Ridge Office of Environmental Management 12 (Oct. 8, 2021), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem\\_73212\\_EMDF\\_ROD\\_D1\\_TDEC\\_10\\_08\\_2021.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem_73212_EMDF_ROD_D1_TDEC_10_08_2021.pdf). See also Letter from Randy Young, FFA Manager, TDEC, to John Michael Japp, FFA Manager, DOE Oak Ridge Office of Environmental Management 1 (July 10, 2019), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/73212\\_EMDF\\_FFS\\_K832\\_Basin\\_TDEC\\_07\\_10\\_2019.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/73212_EMDF_FFS_K832_Basin_TDEC_07_10_2019.pdf) (stating “TDEC’s position has not changed in that, moving forward, TDEC’s expectation for wastewater management is compliance with the Clean Water Act for chemicals and TBELs for radioactive contaminants; particularly in light of DOE having demonstrated that this is readily achievable with inexpensive, off-the-shelf technology.” (emphasis added)).

114. EMDF ROD, *supra* note 25, at 2-69. This basic treatment method is what is currently used in the settling ponds for the existing EMWFM landfill; it is not the “best available technology” (per the CWA) and is not what achieves treatment to the “maximum extent practicable” (per CERCLA §121(b)). “The process of precipitation/coagulation/flocculation transforms dissolved contaminants into insoluble solids, assisting in the contaminant’s subsequent removal from the liquid phase through sedimentation or filtration. The process usually uses pH adjustment, addition of a chemical precipitant and flocculation.” See REMEDIOS & UNIVERSITY OF ABERDEEN, GROUND WATER, SURFACE WATER, AND LEACHATE: PRECIPITATION/COAGULATION/FLOCCULATION 1, [https://www.abdn.ac.uk/remediation-dst/documents/precipitation\\_coagulation\\_flocculation.pdf](https://www.abdn.ac.uk/remediation-dst/documents/precipitation_coagulation_flocculation.pdf).

115. See discussion in Section III.D.

116. See *supra* note 38.

117. See *supra* note 38. See, e.g., CERCLA §121(b) and (d)(1).

also rely on treatment to establish the minimum floor of protectiveness of human health and the environment.<sup>118</sup> The objective, off-the-shelf metrics mandated by CERCLA §121 bring more transparency and certainty into the decisionmaking process to help ensure uniformity across sites when meeting the more subjective “protectiveness” standard. All three separate and independent requirements are to be met under the statute; merely saying a remedy is “protective” does not displace the other statutory mandates in CERCLA.

The EMDF ROD states that “[t]he approach was agreed upon among the Federal Facility Agreement parties. . . . The remediation goals and future discharge limits are within the CERCLA risk range and protective of Human Health and the Environment. There is no credible threat to any downstream water users.”<sup>119</sup>

The claim of “no credible threat” is quite troubling for a number of reasons. For years, the state has posted “Do Not Eat the Fish” signs on Bear Creek and other waters in and around ORR due to the serious risks posed by DOE’s actions. Those risks in part led TDEC, and EPA Region 4 soon thereafter, to initiate the dispute in 2016 over DOE’s failure to properly manage wastewater discharges from EMWMF; in the seven years since then, nothing has really changed. EMWMF continues to operate as it has all along, the 1999 ROD is still in place, and there are no effluent discharge limits or BAT treatment to protect Bear Creek and its downstream waters. While the recreational fishermen (and their families) are on notice that it is unsafe to catch and eat fish, the posted signs do not eliminate the economic necessity that drives the decisions of many people. Nor do those signs in any way “restore and maintain” the water quality of water bodies adversely affected by DOE’s activities at ORR.

There is no legal or scientifically sound, peer-reviewed basis for DOE’s “no credible threat” position, especially where its actions do not, and would not in the future, “fully protect the designated use” measured throughout the entirety of Bear Creek, not just monitored downstream somewhere. Similarly, DOE’s claim that its approach is protective of human health and the environment lacks credible support. Subjectively and selectively manipulating inputs—exposure duration and FCR, for example—into a formula in order to come up with a number artificially landing within the NCP’s cancer risk range does not really ensure protectiveness of human health; it just represents a self-serving calculation that marginalizes peer-reviewed science. Combining out-of-date values and cherry-picking borrowed assumptions originally developed for different purposes is not sound science, it merely introduces a new mixed-and-matched paradigm that improperly furthers

the polluter’s interests while putting the public and the state’s natural resources at risk.

While the EMDF ROD does include statements in its Declaration section indicating that the remedy selected is protective of human health and the environment, attains ARARs, and incorporates treatment to the maximum extent practicable, those statements are not supported by the FFS or other parts of the administrative record—certainly not when compared to existing, objective benchmarks. The improper exclusion of the two most stringent available CWA RARs, together with the weakening and undermining of two other CWA RARs, combined with the failure to incorporate treatment technology to the maximum extent practicable in the remedy selection decision, result in potentially adverse impacts on human health that are measured in orders of magnitude.

One way to evaluate the real-world implications flowing from the FFA violations is to compare actual PRG numbers. For example, for iodine-129, EPA’s PRG derived in accordance with CERCLA, the NCP, and existing CERCLA guidance for purposes of the 2019 RA Decision was 0.196 picocuries per liter (pCi/L)<sup>120</sup>; the PRG DOE selected in the EMDF ROD is 10.2 pCi/L, or more than 50 times higher.<sup>121</sup> For strontium-90, the difference is 1.127 pCi/L (RA Decision) and 47.9 pCi/L (EMDF ROD), or 40 times higher. For uranium-235 and uranium-236, the difference is 1.757 pCi/L (RA Decision) and 455 pCi/L (EMDF ROD), or 259 times higher. And for technetium-99 (Tc-99), which according to EPA has a half-life of more than 200,000 years,<sup>122</sup> the difference is 22.23 pCi/L (RA Decision) and 1,000 pCi/L (EMDF ROD), or 45 times higher. To correctly evaluate the cumulative risk to human health, one has to add up all of the differences between the RA Decision’s PRG value and EMDF ROD’s PRG value for all of the 20-odd radionuclides.

The differences are even more significant when these numbers are compared with what can be achieved using BAT, in this case ion exchange resin treatment technology already used by DOE at ORR and elsewhere. For example, ion exchange technology has achieved levels for Tc-99 in the low single digits of pCi/L at DOE’s Hanford site in Washington State,<sup>123</sup> an order of magnitude lower than the RA Decision’s PRG value and 333 times lower than the PRG selected for Tc-99 in the EMDF ROD.

There is nothing in the Wheeler Decision, the FFS, or the EMDF ROD that explains how, given these dis-

118. These include maximum achievable control technology (MACT) standards under the CAA, land disposal restrictions (LDRs) under RCRA, and, of course, BAT standards under the CWA.

119. EMDF ROD, *supra* note 25, at 3-115.

120. See the attachment to the letter from John A. Mullis II to Andrew Wheeler, *supra* note 21, elevating the wastewater dispute to the headquarters level. The EPA calculations correctly used a 10<sup>-6</sup> point of departure.

121. See EMDF ROD, *supra* note 25, at 2-68.

122. See U.S. EPA, EPA FACTS ABOUT TECHNETIUM-99, <https://semspub.epa.gov/work/HQ/175253.pdf>.

123. See Mark Carlson et al., Removal of Technetium-99 on Ion Exchange Resin—A Case Study at 200 West Pump and Treat-17303, Presentation at WM Symposia 2017 Conference (Mar. 5-9, 2017), [https://archivedproceedings.econference.io/wmsym/2017/pdfs/FinalPaper\\_17303\\_0213111640.pdf](https://archivedproceedings.econference.io/wmsym/2017/pdfs/FinalPaper_17303_0213111640.pdf).



parities measured in orders of magnitude, the approach now taken by EPA and DOE will ensure protectiveness of human health and the environment for the recreational users of Bear Creek and its downstream waters. The objective numbers tell a clear story—Bear Creek and its recreational users are getting a severely diminished level of protection.<sup>124</sup>

124. The threat to Bear Creek and those using it for recreational purposes is exacerbated by the EMDF ROD's dismissal of the PCB-related regulatory requirement to have a separation of at least 50 feet between the bottom of the landfill and groundwater. See EMDF ROD, *supra* note 25, at 2-76. The EMDF ROD states that "disposal of PCB waste in the existing EMWFMF has been limited to bulk PCB waste disposal (< 50 ppm)," *id.* at 2-79, but also indicates that PCBs with concentrations of up to 500 parts per million (ppm) (treated to prevent free liquids) may be disposed of in the new landfill, *id.* at 2-56. Importantly, these thresholds measured in ppm are not health-based numbers. In fact, EPA guidance makes it clear that levels measured in *parts per trillion*—not ppm—are needed in order to be protective of human health when addressing dioxin and their related PCB congeners, even in commercial/industrial settings. See, e.g., U.S. EPA, USE OF DIOXIN TEFs IN CALCULATING DIOXIN TEQs AT CERCLA AND RCRA SITES (2013), <https://semsub.epa.gov/work/HQ/174558.pdf>; OFFICE OF SUPERFUND REMEDIATION AND TECHNOLOGY INNOVATION, U.S. EPA, DRAFT RECOMMENDED INTERIM PRELIMINARY REMEDIATION GOALS FOR DIOXIN IN SOIL AT CERCLA AND RCRA SITES (2009) (OSWER 9200.3-56), <https://nepis.epa.gov/Exec/zyPDF.cgi/P100GEMB.PDF?Dockey=P100GEMB.PDF> (as published in the *Federal Register*, 75 Fed. Reg. 984 (Jan. 7, 2010), available at <https://semsub.epa.gov/work/11/174932.pdf>). Under the Safe Drinking Water Act (SDWA), the maximum contaminant level (MCL) for PCBs is 0.5 microgram/liter (ug/l), or .5 parts per billion (ppb); MCLs are typically considered RARs at CERCLA sites.

When the Superfund Remedy Review Board, EPA's panel of CERCLA national cleanup experts, reviewed this aspect of the proposed approach for the EMDF landfill, it indicated the following:

The Board notes that, consistent with national program guidance, complying with this location-specific ARAR does not necessarily lead to ensuring protectiveness of human health as required by CERCLA. From both a general statutory perspective, as well as a regulatory one [under 40 C.F.R. 761.61(c)], TSCA uses a "no unreasonable risk" standard. As a legal matter under established TSCA case law, the "no unreasonable risk" standard is based on cost-benefit analysis; however, CERCLA, under section 121, requires a health-based standard that ensures protectiveness of human health (i.e., per NCP and Agency guidance, 10-4 to 1 0-6 for cancer risks and an HI no greater than 1) and that does not use cost-benefit analysis.

See Memorandum from Amy R. Legare, Chair, National Remedy Review Board, to Franklin E. Hill, Superfund Division, U.S. EPA Region 4, re National Remedy Review Board Recommendations for the Oak Ridge Reservation, Environmental Management Disposal Facility and Wastewater Management for the Disposal of Comprehensive Environmental Response, Compensation and Liability Act Waste 5-6 (Apr. 4, 2017), <https://semsub.epa.gov/work/HQ/196743.pdf>. The role of cost-benefit in the Toxic Substances Control Act (TSCA) "no unreasonable risk" standard is recognized by the courts. See, e.g., *Corrosion Proof Fittings v. Environmental Prot. Agency*, 947 F.2d 1201, 22 ELR 20304 (5th Cir. 1991); other federal environmental statutes—for example, the SDWA—also use cost-benefit analysis. The use of cost-benefit analysis is not the same as consideration of cost-effectiveness (required by CERCLA §121); while cost is considered as part of the alternatives evaluation process in the NCP, it is one of the five "balancing" criteria and does not influence the statutory mandate to ensure protectiveness of human health and the environment, one of the two threshold criteria that must always be met (see 40 C.F.R. §300.430(e)(9)).

As noted earlier, EPA's long-standing policy position is that compliance with an ARAR (like the TSCA regulations here) may not be sufficient to ensure protectiveness for CERCLA purposes. While DOE suggests that its landfill design is sufficient to prevent any "unreasonable risk of injury to health or the environment," the EMDF ROD itself indicates that additional sampling is needed to fully characterize the groundwater table underneath the proposed landfill. See, e.g., EMDF ROD, *supra* note 25, at 2-82. See also Letter from Randy Young, *supra*

## E. Inadequate Opportunities for Meaningful Public Participation

CERCLA §113(k) and §117 establish some basic procedures for allowing meaningful public participation in the remedy selection process, including the preparation of an administrative record supporting a proposed plan, which is made available for the public to review and comment on prior to the issuance of a final ROD selecting a remedial action.

The NCP in 40 C.F.R. §300.430 lays out in much more detail the process to be followed for selecting a CERCLA remedial action, which includes preparation of an RI/FS.<sup>125</sup> The next step after the RI/FS is the issuance of a proposed plan. The NCP requires the lead agency to prepare a proposed plan that, among other things, "describes the remedial alternatives analyzed by the lead agency, proposes a preferred remedial action alternative, and summarizes the information relied upon to select the preferred alternative."<sup>126</sup> EPA guidance explains that the proposed plan "should clearly describe why the lead agency is recommending the Preferred Alternative."<sup>127</sup>

The NCP also makes it clear that "[t]he proposed plan is to supplement the RI/FS and provide the public with a reasonable opportunity to comment on the preferred alternative for remedial action, as well as alternative plans under consideration, and to participate in the selection of remedial action at a site."<sup>128</sup>

note 14, at 2 (indicating the need for additional characterization information regarding the high-water table).

Given the existing groundwater contamination in and around the Y-12 site (see *supra* note 10), there is insufficient data and information in the existing administrative record to support a determination that the EMDF ROD ensures protection of human health and the environment in accordance with the NCP (e.g., 40 C.F.R. §300.430(a)(1)(iii)(F)) and existing EPA guidance (e.g., Memorandum from James E. Woolford, Director, U.S. EPA Office of Superfund Remediation and Technology Innovation, to Superfund National Policy Managers, U.S. EPA Regions 1-10, re Summary of Key Existing EPA CERCLA Policies for Groundwater Restoration (June 26, 2009) (OSWER Directive 9283.1-33), <https://semsub.epa.gov/work/HQ/175202.pdf>) by appropriately addressing groundwater contamination associated with the existing and proposed landfills and their operation. Thus, the EMDF ROD and its current supporting administrative record do not provide sufficient actual data and information (e.g., documentation showing actual knowledge of and approval of the "no unreasonable risk" determination by the EPA Administrator or Regional Administrator) to demonstrate how siting the new landfill without a 50-foot buffer meets all of the requirements in 40 C.F.R. §761.75. And, even if all the requirements were to be met, the EMDF ROD does not show how siting the new landfill without a 50-foot buffer would ensure protectiveness of human health and the environment in accordance with CERCLA, the NCP, and existing EPA guidance (e.g., not exceeding that cancer risk range/hazard index of 1; restoration of groundwater to its beneficial use; achieving MCLs throughout the plume, including the MCL for PCBs of .5 ppb), especially given the extensive existing groundwater contamination caused by DOE's actions at this portion of ORR.

125. See also GUIDANCE FOR CONDUCTING RI/FS, *supra* note 110.

126. 40 C.F.R. §300.430(f)(2).

127. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, U.S. EPA, A GUIDE TO PREPARING SUPERFUND PROPOSED PLANS, RECORDS OF DECISION, AND OTHER REMEDY SELECTION DECISION DOCUMENTS §3.4 (1999) (EPA-540-R-98-031), [https://www.epa.gov/sites/default/files/2015-02/documents/rod\\_guidance.pdf](https://www.epa.gov/sites/default/files/2015-02/documents/rod_guidance.pdf) [hereinafter GUIDE TO PREPARING REMEDY SELECTION DECISION DOCUMENTS].

128. 40 C.F.R. §300.430(f)(2).

As explained in Agency guidance:

The Proposed Plan, as well as the RI/FS and the other information that forms the basis for the lead agency's response selection, is made available for public comment in the Administrative Record file.<sup>129</sup>

Long-standing EPA guidance also highlights the importance of the RI/FS in ensuring meaningful public participation in the CERCLA remedy selection process:

Section 117 of CERCLA (Public Participation) emphasizes the importance of early, constant, and responsive relations with communities affected by Superfund sites and codifies, with some modifications, current community relations activities applied at NPL sites. Specifically, *the law requires* publication of a *notice of any proposed remedial action (proposed plan)* in a local newspaper of general circulation and a *“reasonable opportunity” for the public to comment* on the proposed plan and other contents of the administrative record, *particularly the RI and the FS*. In addition, the public is to be afforded an opportunity for a public meeting. The proposed plan should include a brief explanation of the alternatives considered, which will usually be in the form of a summary of the FS.<sup>130</sup>

That guidance also makes it clear that the RI/FS needs to be in final, approved form to serve its intended purpose:

*Following completion of the RI/FS, the results of the detailed analyses, when combined with the risk management judgments made by the decisionmaker, become the rationale for selecting a preferred alternative and preparing the proposed plan.*<sup>131</sup>

The RI/FS, then, is part of the administrative record made available to the public when a proposed plan is published to allow for meaningful comment on the lead agency's preferred cleanup alternative.<sup>132</sup>

Finally, according to the NCP, “if new information is made available that significantly changes the basic features of the remedy,” the lead agency is required to provide the public with an opportunity to comment on a revised proposed plan, when “the change could not have been reasonably anticipated by the public” based on what was in the original proposed plan or supporting information that was in the administrative record.<sup>133</sup>

The EMDF ROD states that “[t]reatment of landfill wastewater from EMDF, however, is a *key component of the remedy* and will reduce the toxicity of the wastewater and mobility of contaminants released from the waste.”<sup>134</sup> Yet the 2018 proposed plan issued by DOE, which predated both the 2019 RA Decision and the 2020 Wheeler Decision, did not contain any information related to this “key component of the remedy”—nothing about the treatment of wastewater discharges or the development of ARARs-based PRGs and wastewater discharge limits for EMDF or EMWMF, and nothing about TBELs, antidegradation, WQBELs, or fully protecting Bear Creek. And as discussed earlier, contrary to the NCP and existing EPA guidance, DOE has not provided an alternatives analysis in the FFS or any other CERCLA decision document that addresses the full range of available treatment options, including but not limited to ion resin exchange currently used by DOE at ORR and at its other NPL sites.

Of course, at the time the proposed plan was issued, the FFA parties were in a formal dispute because they could not even agree that CERCLA response authority, the NCP, and EPA guidance documents should be the basis for carrying out the cleanup. As a result, the 2018 proposed plan stated:

The Administrative Record for the management and discharge of this wastewater is not yet complete, and the evaluation of alternatives to address wastewater management in a D2 Focused Feasibility Study is currently under dispute between the Agencies. The ROD will describe CERCLA and NCP-compliant discharge requirements for wastewaters from the EMDF.<sup>135</sup>

It would have been impossible for anyone in 2018 to reasonably anticipate the end result of the formal dispute resolution process and provide comments on something that had not yet been determined. No one could have reasonably anticipated the arbitrary and capricious interpretations and determinations made in the Wheeler Decision, as discussed above. No one could have reasonably anticipated the way in which the FFA parties agreed in private to implement it. Yet, DOE still seeks to justify its decision not to prepare a revised proposed plan with an approved, supporting FFS to allow the public to meaningfully participate in the remedy selection decision:

DOE has conducted additional work needed to support selecting a remedy in the ROD. DOE has worked with the other FFA parties to agree to a final list of ARARs, and a final approach for WAC [waste acceptance criteria] and discharge limits. As these final elements did not change the essence of the disposal facility design nor change any of the protectiveness, effectiveness, imple-

129. GUIDE TO PREPARING REMEDY SELECTION DECISION DOCUMENTS, *supra* note 127, at 1-5.

130. GUIDANCE FOR CONDUCTING RI/FS, *supra* note 110, at 1-5 (emphasis added).

131. *Id.* at 6-14 (emphasis added).

132. The NCP contains requirements for preparing and making available the administrative record that allows for meaningful public participation. See 40 C.F.R. §300.430(f)(3) & subpt. I (starting with 40 C.F.R. §300.800). See also U.S. EPA, REVISED GUIDANCE ON COMPILING ADMINISTRATIVE RECORDS FOR CERCLA RESPONSE ACTIONS (2010), <https://www.epa.gov/sites/default/files/2013-11/documents/admin-record-mem-rev.pdf>.

133. 40 C.F.R. §300.430(f)(3)(ii).

134. EMDF ROD, *supra* note 25, at 2-84 (emphasis added).

135. DOE, PROPOSED PLAN FOR THE DISPOSAL OF OAK RIDGE RESERVATION COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) WASTE 13 (2018) (DOE/OR/01-2695&D2/R1), <https://doec.science.energy.gov/uploads/A.0100.030.2596.pdf>.

mentability, or cost evaluation criteria, no additional public comment is required.<sup>136</sup>

It strains credulity to assert that the essence of the project did not change when fundamentally significant features, such as a final list of ARARs, PRGs, effluent discharge limits, and treatment options, were never previously presented. In fact, the 2018 proposed plan plainly admits it does not include these essential features of a *key component* of the EMDF remedy.

The EMDF ROD claims that there was enough information discussing water quality protection for Bear Creek (a fact sheet and technical memorandum) for the public to review and comment on, as well as an adequate public involvement opportunity, in the spring of 2022.<sup>137</sup> For example, the EMDF ROD states:

In addition, the public has access to both EPA Administrator Wheeler's dispute decision letter, available in the Administrative Record since May 2021, and the previous versions of the Focused Feasibility Study (FFS). These documents were available to the public during the additional public involvement period as part of the Administrative Record and through the DOE Information Center. Approval of the FFS is planned prior to ROD signature.<sup>138</sup>

The EMDF ROD also notes the availability of the Wheeler Decision and previous versions of the FFS, then claims:

This approach is consistent with but does not depend on the FFS and is in accordance with the EPA Administrator Dispute Decision that allows for concurrent development of the FFS and ROD as stated: "It is my expectation that fish tissue studies and development of PRGs for effluent limitations for radionuclides will occur in parallel with Region 4's review of the draft ROD to continue progress on the remedial actions for establishing additional landfill capacity at ORR." Because the PRGs are included in both the FFS and the EMDF ROD, concurrent development of both documents is reasonable and expected.<sup>139</sup>

The fact sheets and accompanying materials made available by DOE a few months before the EMDF ROD was signed look nothing like a proposed plan and RI/FS prepared in accordance with the NCP and extensive EPA guidance documents.<sup>140</sup> The fact sheets and accompanying materials, for example, did not contain an analysis of

a full range of alternatives, a complete and accurate list of all available ARARs, or a description of available treatment technologies. While the NCP preamble<sup>141</sup> and existing guidance do mention fact sheets, those are meant to summarize "the key findings and conclusions contained in the Proposed Plan."<sup>142</sup> Thus, EPA guidance recommends distribution of a fact sheet "whenever a more detailed Proposed Plan is prepared," not to substitute for a revised proposed plan when a key component of the remedial action has been changed or added.

There has been no proposed plan, detailed or otherwise, discussing the wastewater effluent discharge limits for the EMWDF or EMDF landfills in a manner that would allow for informed, meaningful public comment. Nor was there a final FFS approved by EPA and TDEC made available to the public in a timely fashion before issuance of the EMDF ROD. In reality, the FFS was a moving target with multiple, substantively different draft versions prepared after the Wheeler Decision was issued, before a final FFS addressing significant comments from EPA and TDEC was approved in September 2022, a few weeks before the EMDF ROD was signed.

As a legal matter, despite the statement in the Wheeler Decision and the assertion in the EMDF ROD, the Administrator does not have the authority with a simple stroke of the pen to amend the NCP, without a formal notice-and-comment rulemaking, to allow for the concurrent development of an FFS and ROD. Nor is such an approach "in accordance with" the pertinent provisions of the NCP and detailed Agency guidance related to public participation in the CERCLA remedy selection process.

On top of this flagrant process foul, the EMDF ROD openly admits that DOE does not have sufficient information to make a fully informed final remedy selection decision. For example, the EMDF ROD and its supporting administrative record do not identify the specific waste to be disposed of in the new landfill and its associated wastewater: "In addition, the WAC are intended to limit the concentrations in landfill wastewater by limiting the concentrations of mobile contaminants in the waste, such as mercury. These WAC limits will be implemented through the post-ROD, FFA parties-approved primary document, the WAC Compliance Plan."<sup>143</sup>

Similarly, the EMDF ROD admits that DOE does not have sufficient information regarding wastewater discharge limits because key design and other important information—where the effluent discharge point will be, what the discharge rate will be, what will be in the effluent—is not yet available:

EMDF design information is not yet available, including details such as discharge point, discharge rate, assimilative capacity of the receiving surface water body, etc. As a result, prior to operation, a post-ROD FFA primary docu-

136. EMDF ROD, *supra* note 25, at 3-196. Similar statements appear elsewhere in the ROD; *see, e.g., id.* at 3-442.

137. *Id.* at 3-316 and 3-385.

138. *Id.* at 3-385.

139. *Id.*

140. *See* 40 C.F.R. §300.430(e) and (f). *See also* OFFICE OF LAND AND EMERGENCY MANAGEMENT, U.S. EPA, SUPERFUND COMMUNITY INVOLVEMENT HANDBOOK (2016) (EPA-540-K-02-015), <https://semspub.epa.gov/work/HQ/100000070.pdf> [hereinafter SUPERFUND COMMUNITY INVOLVEMENT HANDBOOK]; GUIDE TO PREPARING REMEDY SELECTION DECISION DOCUMENTS, *supra* note 127; GUIDANCE FOR CONDUCTING RI/FS, *supra* note 110.

141. *See, e.g.,* 55 Fed. Reg. 8666, 8767-68, 8771 (Mar. 8, 1990).

142. SUPERFUND COMMUNITY INVOLVEMENT HANDBOOK, *supra* note 140, at 37.

143. EMDF ROD, *supra* note 25, at 3-275. *See also id.* at 2-54.

ment (such as the Remedial Action Work Plan [RAWP]) will establish details of wastewater and/or receiving water sampling, fish tissue sampling, and other specifics of the monitoring and compliance program. This post-ROD, FFA primary document will also include development of effluent limits, which will be developed per the CWA methodology, analogous to how effluent limits are developed from the AWQC for non-radiological COCs [contaminants of concern].<sup>144</sup>

The lack of needed information is also clearly apparent in the EMDF ROD's response to comments section. As explained in EPA guidance:

At the same time, the summary will be a critical document in the defense of the lead agency's actions. For this reason, the summary should fully and completely express the lead agency's policy, technical, and legal rationales.<sup>145</sup>

Contrary to EPA's guidance, the EMDF ROD does little more than evade the issues raised by stakeholders in letters and the public meeting held before and after release of the fact sheets, and kicks the can down the road.<sup>146</sup> In fact, the nonresponsive replies only reinforce the conclusion that DOE does not have enough information currently to make and credibly support critically important findings mandated by the statute. For example, DOE indicates that "[t]he discharge limits will be developed in the future, based on the remediation goals, when the specifics of the EMDF landfill wastewater treatment systems are known, including the discharge location,"<sup>147</sup> and that "[w]astewater discharge limits will be developed following completion

of the engineering design, when additional information is available, and prior to operation of the facility."<sup>148</sup>

Without knowing what these discharge limits are, it is impossible to determine whether they actually ensure protectiveness of human health and the environment (and "fully protect" the designated use of Bear Creek and the recreational users of its waters), attain all available ARARs (including the most stringent ones), and use best available treatment technology to the maximum extent practicable.<sup>149</sup> Instead of presenting that information needed as a legal matter to move forward with the EMDF landfill, DOE instead is promising some vague, unenforceable procedural step in the future.<sup>150</sup> Alternatively, the vague and unenforceable language in the EMDF ROD is an indication that DOE just plans to keep the public in the dark, deliberately ignore the stakeholders' numerous concerns, and run out the clock, as it has done with EMWMF.

Finally, ignoring the role of public participation in the CERCLA/NCP remedy selection process, the EMDF ROD makes it clear that the major components of the remedy that have been selected were arrived at through private agreements by the FFA parties. References to agreements made by the FFA parties on critically important features of the remedy, such as the WAC, mercury management, and the approach for wastewater PRGs, can be found throughout the EMDF ROD. For example:

- "Note that agreements by the FFA parties that form the basis for some of the administrative WAC are documented by approval of this ROD."<sup>151</sup>
- "The FFA Parties have developed the following approach for PRGs/cleanup levels for the EMDF."<sup>152</sup>
- "The specific remediation goals for landfill wastewater are specified in the ROD (Sect. 2.12.2.4). The approach was agreed upon among the Federal Facility Agreement parties."<sup>153</sup>
- "The ROD contains ARARs for wastewater management; the FFA parties will agree to the wastewater discharge limits prior to operation of the facility."<sup>154</sup>

A secret agreement among FFA parties put in place out of the public's sight cannot by itself displace statutes, regulations, and guidance. Rather than reflect the robust public participation process Congress mandated in the 1986

144. *Id.* at 2-68. The need for collecting additional crucial data is further reinforced in TDEC's September 14, 2022, letter regarding preparation of the administrative record for the EMDF ROD. Letter from Randy Young, FFA Manager, TDEC, to Roger Petrie, FFA Manager, DOE Oak Ridge Office of Environmental Management (Sept. 14, 2022), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem-73212\\_EMDF\\_PostROD\\_TDEC\\_09\\_14\\_2022.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem-73212_EMDF_PostROD_TDEC_09_14_2022.pdf).

145. GUIDE TO PREPARING REMEDY SELECTION DECISION DOCUMENTS, *supra* note 127, at 6-57.

146. *See, e.g.*, EMDF ROD, *supra* note 25, at 3-354 et seq. The Southern Environmental Law Center (SELC), on behalf of itself and other local community stakeholders, wrote many letters to EPA and DOE providing comments on the Wheeler Decision and how it was implemented, and raising a number of legal concerns with the EPA and DOE approach to ARARs and public participation for this remedy. *See, e.g.*, Letter from Amanda Garcia, Attorney, SELC et al., to Michael Regan, Administrator, U.S. EPA (May 26, 2021), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/73212\\_EMDF\\_SEL\\_C\\_05\\_26\\_2021.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/ffs-water-management/73212_EMDF_SEL_C_05_26_2021.pdf); Letter from Amanda Garcia, Attorney, SELC et al., to Michael Regan, Administrator, U.S. EPA (Aug. 2, 2021), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem-73212\\_EMDF\\_SEL\\_C\\_08\\_02\\_2021a.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem-73212_EMDF_SEL_C_08_02_2021a.pdf); Letter from Amanda Garcia, Attorney, SELC et al., to Michael Regan, Administrator, U.S. EPA (Nov. 4, 2021), [https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem-73212\\_EMDF\\_SEL\\_C\\_11\\_04\\_2021.pdf](https://www.tn.gov/content/dam/tn/environment/remediation/documents/oakridgereservation/emdf-documents/rem-73212_EMDF_SEL_C_11_04_2021.pdf). Additional related letters to EPA and DOE regarding the EMDF from SELC and other stakeholders can be found at Advocates for the Oak Ridge Reservation, *Hazardous Waste Landfill (EMDF)*, <https://aforr.info/hazardous-waste-landfill-emdf/> (last visited Feb. 1, 2023).

147. EMDF ROD, *supra* note 25, at 3-115.

148. *Id.* at 3-398.

149. Rather than select or even address eminently practicable, available treatment alternatives with a known, successful track record (e.g., ion exchange resin technology), the EMDF ROD, *id.* at 2-69, states "[s]econdary wastewater treatment will be determined during the design phase and documented in a post-ROD FFA primary document."

150. The EMDF ROD, *id.* at 2-69, states that "[w]hen the EMDF effluent limits are calculated, the limits will be made available for public comment through either an ESD [explanation of significant differences] or ROD amendment." Of course, even though this statement is made in a ROD, there is no way for EPA or the state, or members of the public, to realistically enforce it. The EMWMF ROD did not contain effluent discharge limits, and 20 years after it began operating, there are still none.

151. *Id.* at 2-55.

152. *Id.* at 2-67.

153. *Id.* at 3-115.

154. *Id.* at 3-211.

amendments to CERCLA, which are spelled out in detail in the NCP, the EMDF ROD harkens back to the early days of the Superfund program when regulators at EPA and polluters entered into sweetheart backroom deals at the expense of surrounding impacted communities who were left without a voice.<sup>155</sup>

#### F. Unpermitted and Unauthorized Discharges of Contaminated Wastewater

CERCLA §121(e)(1) states that “[n]o Federal, state or local permit shall be required for the portion of any removal or remedial action conducted entirely onsite, where such remedial action is selected and carried out in compliance with this section.” This express preemption provision is codified in the NCP at 40 C.F.R. §300.400(e)(1). As explained in the preamble to the proposed NCP:

The purpose of this exemption is to allow CERCLA response actions to proceed expeditiously without the delays that could result while waiting for other offices or agencies to issue a permit. *The substantive requirements that would be imposed by a permit still must be stated in Superfund documents, but the redundancy of stating such standards in a permit issued by another office or agency is avoided.*<sup>156</sup>

Similarly, in the preamble to the final NCP a few years later, EPA explained:

These subsections reflect Congress’ judgment that CERCLA actions should not be delayed by time-consuming and *duplicative* administrative requirements such as permitting, although the remedies should achieve the substantive standards of applicable or relevant and appropriate laws. Indeed, CERCLA has its own comparable procedures for remedy selection and state and community involvement. . . . Accordingly, it would be inappropriate to formally subject CERCLA response actions to the mul-

titude of administrative requirements of other federal and state offices and agencies.<sup>157</sup>

Duplication means doing something twice. EPA’s CWA NPDES regulations at 40 C.F.R. Part 124 establish detailed requirements for obtaining a §402 effluent discharge permit. Chapter 4 of EPA’s *NPDES Permit Writers’ Manual* further outlines the various specific steps involved in issuing an NPDES permit, such as submitting an application with information that includes the “expected outfall locations, date of expected commencement of discharge, expected flow characteristics, sources of pollutants, treatment technologies, and expected intake and effluent characteristics.”<sup>158</sup>

For the point source discharges from EMWFM and EMDF, DOE’s administrative records—including the RI/FSs, proposed plans, and RODs—do not provide comparable data and information, and do not show how the discharges into Bear Creek fully attain the substantive requirements of even the two CWA regulations identified as RARs by the Wheeler Decision, much less the two more stringent CWA RARs indefensibly eliminated by it. Instead, the EMDF ROD states that for wastewater, “[t]he discharge limits will be developed in the future, based on the remediation goals, when the specifics of the EMDF landfill wastewater treatment systems are known, including the discharge location.”<sup>159</sup>

Imagine a private party seeking to build an industrial landfill on private property, who applies for an NPDES permit but cannot identify which hazardous wastes are going to be disposed of, the composition of the effluent to be discharged, or even where the discharge point will be. In light of the procedural and substantive requirements in 40 C.F.R. Part 124, it is hard to see how a responsible regulatory authority would issue a draft permit containing no specific effluent discharge limits for public review and comment, much less grant a final permit without going through the required public review procedures—all based on a vague promise to provide the necessary information at a later date; yet that is the approach being taken for the EMDF ROD. It is also hard to see how this approach to public participation could survive judicial scrutiny in light of recent decisions by the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit and EPA’s Environmental Appeals Board.<sup>160</sup>

Without a final, complete administrative record identifying all available ARARs, the public did not have a meaningful opportunity to understand and comment on the proposed effluent discharge limits associated with the

155. Congress enacted extensive amendments to CERCLA in 1986 partly in order to prevent sweetheart deals between EPA and polluters. *See, e.g.*, 132 CONG. REC. S14895, S14918 (daily ed. Oct. 3, 1986) (statement of Sen. Mitchell):

The question of whether EPA should settle cases with potentially responsible parties (PRP’s) had a long history. As many will remember, it was sweetheart deals that EPA negotiated with PRP’s several years ago that led to the resignation of Rita Lavelle and Anne Burford. . . . The settlements provision is not a *carte blanche* for the agency to cease enforcement activity and to agree to any offers by PRP’s. Section 122, to the contrary, envisions an agency that uses all of its enforcement tools to persuade PRP’s to clean up a site quickly and effectively so that people are no longer exposed to hazardous substances. . . . The purpose is to clarify the limited circumstances in which settlements are appropriate; the purpose is not to encourage EPA to settle as many cases as possible.

Importantly, CERCLA §120(a) makes it clear that FFAs with federal facilities are to be the same procedurally and substantively as CERCLA §122 settlements with private-party PRPs.

156. National Oil and Hazardous Substances Pollution Contingency Plan, 53 Fed. Reg. 51394, 51443 (Dec. 21, 1988) (emphasis added).

157. 55 Fed. Reg. 8666, 8756 (Mar. 8, 1990) (emphasis added).

158. *See* NPDES PERMIT WRITERS’ MANUAL, *supra* note 64, at 4-8. *See also* Exhibit 4-4, Permit application review process, *id.* at 4-13.

159. EMDF ROD, *supra* note 25, at 3-115.

160. *Waterkeepers Chesapeake v. Federal Energy Regul. Comm’n*, No. 21-1139, 53 ELR 20001 (D.C. Cir. Dec. 20, 2022); *In re U.S. Department of Energy and Triad National Security, L.L.C.*, NPDES Appeal No. 22-01, Remand Order, (December 28, 2022), available at [https://yosemite.epa.gov/oal/EAB\\_Web\\_Docket.nsf/RecentAdditionsv2/5A6E604E4F22E92E85258926005EA71A/\\$File/Triad%20FINAL%20Decision.pdf](https://yosemite.epa.gov/oal/EAB_Web_Docket.nsf/RecentAdditionsv2/5A6E604E4F22E92E85258926005EA71A/$File/Triad%20FINAL%20Decision.pdf).

cleanup in the same manner and to the same extent as the public would otherwise have an opportunity to participate in a CWA §402 permit process for a comparable non-CERCLA situation (e.g., notice of draft permit by the regulatory agency, public hearing, finalization of the permit). Far from having the CERCLA remedy selection process duplicate and serve the functionally equivalent purpose of an NPDES permitting process, DOE, with EPA's help, has used the CERCLA process to avoid accountability and transparency for its proposed effluent discharges, hardly the result Congress was looking for when it enacted the 1986 amendments partially in response to sweetheart deals entered into between EPA and polluters out of reach of the public's input.

In 2016, when the wastewater dispute originated, TDEC objected to the way contact water from EMWMF was being discharged into Bear Creek as being unauthorized by the CWA; the state also found "no formal approval of the current point of compliance in a primary CERCLA or FFA document."<sup>161</sup> Those ongoing discharges still are not authorized by a CWA permit or shielded by the CERCLA permit exemption since there is no CERCLA decision document duplicating an NPDES permit issued to cover the discharges from EMWMF.

#### IV. Judicial Review

Congress has recognized that, at times, litigation is the only way to get federal agencies to follow the rule of law. Like similar provisions in other federal environmental laws, CERCLA §310(a) provides for citizen suits against the United States when there is an alleged violation of "any provision of an agreement under section 9620 of this title, relating to Federal facilities" and/or "where there is alleged a failure of the President or of such other officer to perform any act or duty under this chapter, including an act or duty under section 9620 of this title (relating to Federal facilities), which is not discretionary with the President or such other officer."<sup>162</sup>

CERCLA §113(h) contains limitations on the timing of judicial review. Existing case law involving private potentially responsible parties (PRPs) focuses on when a case can be brought. Circuit court decisions over the years have considered whether allowing a lawsuit to proceed would impede or interfere with an ongoing CERCLA response action, or delay prompt cleanup.<sup>163</sup>

Some courts of appeal, however, have expressed impatience with the federal government's expansive interpretation of §113(h). For example, the U.S. Court of Appeals for the Seventh Circuit voiced its concerns this way:

[W]hat if EPA decides to study the contamination for an indeterminate period of time without taking any remedial action? Counsel had no response when asked whether the statute precludes review if EPA claims that it will take action, after further study, at some point before the sun becomes a red giant and melts the earth. We then asked counsel whether a reviewing court could . . . compel agency action unlawfully withheld or unreasonably delayed, if EPA dragged its feet for decades. Counsel informed us that a court could not act under these circumstances because CERCLA's rules governing judicial review override the APA [Administrative Procedure Act]. . . . We can only conclude from this exchange that EPA considers itself protected from review under CERCLA §113(h) as long as it has any notion that it might, someday, take further unspecified action with respect to a particular site.<sup>164</sup>

And the D.C. Circuit has been disturbed by the possible breadth of what could represent a pending or ongoing or expeditious cleanup, or which actions actually might theoretically impede, delay, or interfere with that cleanup:

The absolutism of the Government's position is striking.

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The Government's position is dubious, to say the least: *If* EPA's *ipse dixit* is enough to trigger §113(h), and *if* EPA can also do nothing for as long as it pleases, then CERCLA §113(h) becomes a license for EPA to do as it will for as long as it would like, all the while free of judicial review. And where federal facilities are involved, this *carte blanche* has the potential to be used by the Government to avoid liability. We doubt this is what Congress intended in CERCLA §113(h).<sup>165</sup>

Since key actions—the Wheeler Decision and signing the EMDF ROD—have been taken by EPA Administrators

161. Letter from Randy Young, *supra* note 14.

162. 42 U.S.C. §9659(a).

163. *Boarhead Corp. v. Erickson*, 923 F.2d 1011, 1019, 21 ELR 20517 (3d Cir. 1991) (section 113(h) is "designed to prevent time-consuming litigation from delaying the prompt clean-up of [hazardous waste] sites" and furthers the statute's goal by providing the federal government with "the authority and the funds necessary to respond expeditiously to serious hazards without being stopped in its tracks by legal entanglements before or during the hazard clean-up"); *Costner v. URS Consultants, Inc.*, 153 F.3d 667, 675, 28 ELR 21493 (8th Cir. 1998); *New Mexico v. General Elec. Co.*, 467 F.3d 1223, 1250, 36 ELR 20219 (10th Cir. 2006) ("§9613(h) reflects Congress' judgment that residual injury, if any . . . be addressed at the conclusion of the EPA-ordered remediation"); *Broward Gardens Tenants Ass'n v. Environmental Prot. Agency*, 311 F.3d 1066, 1073 (11th Cir. 2002). *See also* H.R.

REP. NO. 99-253(I), at 81 (1986), *reprinted in* 1986 U.S.C.C.A.N. 2863 (House Committee on Energy and Commerce view that "there is no right to judicial review of the Administrator's selection and implementation of response actions until after the response action[s] have been completed"). Similarly, "[t]his provision is not intended to allow review of the selection of a response action prior to completion of the action." H.R. REP. NO. 99-263(III), at 23 (1986), *reprinted in* 1986 U.S.C.C.A.N. 3046 (House Judiciary Committee). Further, as reflected in the final conference committee report, "only completed" remedial action can be challenged. H.R. REP. NO. 99-962, at 224 (1986), *reprinted in* 1986 U.S.C.C.A.N. 2835. *See also* H.R. REP. NO. 99-253(I), at 266 (1985), *reprinted in* 1986 U.S.C.C.A.N. 2835, 2941 (purpose of §113(h) is "to prevent private responsible parties from filing dilatory, interim lawsuits which have the effect of slowing down or preventing the EPA's cleanup activities").

164. *Frey v. Environmental Prot. Agency*, 403 F.3d 828, 834, 35 ELR 20076 (7th Cir. 2005).

165. *El Paso Natural Gas Co. v. United States*, 750 F.3d 863, 877-78 (D.C. Cir. 2018).

and have involved the participation by headquarters offices of both EPA and DOE,<sup>166</sup> a CERCLA §310(a) action could be filed in the D.C. Circuit.

For federal facilities like ORR, the rules governing the timing of judicial review may be different. The U.S. Court of Appeals for the Ninth Circuit has stated that “Congress passed §113(h) in order to protect the execution of a CERCLA plan *during its pendency* from lawsuits that might interfere with the expeditious cleanup effort.”<sup>167</sup> The Ninth Circuit went on to find an unusual way around §113(h) in *Fort Ord*, a case involving a challenge to a cleanup at a U.S. Army facility on the NPL. The court of appeals ruled that the cleanup was actually being undertaken pursuant to the authority of CERCLA §120 and therefore was not subject to the §113(h) timing limitation, which on its face applies only to response actions taken pursuant to §104 authority or those secured pursuant to §106 enforcement authority.<sup>168</sup>

Three other circuit courts of appeal have addressed *Fort Ord*; significantly, all three cases involved CERCLA removal actions—not remedial actions—at federal facility sites. Two cases involved federal facilities that were not on the NPL, and the Seventh Circuit and the U.S. Court of Appeals for the Eleventh Circuit appear to have left the Ninth Circuit’s reading of §113(h) an open question.<sup>169</sup> The case before the U.S. Court of Appeals for the Third Circuit did involve a federal facility NPL site, but is distinguishable because the U.S. Navy was carrying out a CERCLA removal action pursuant to CERCLA §104(b).<sup>170</sup>

The Wheeler Decision openly recognized that the Ninth Circuit’s reasoning in *Fort Ord* regarding §113(h) is correct when it stated that CERCLA §120, not §104, is the relevant legal authority for remedy selection at federal facility NPL sites. As is made clear by the Wheeler Decision and the FFS, both the EMWMF ROD and the EMDF ROD are inextricably intertwined with regard to determining effluent discharge limits for the landfills’ wastewater. Under *Fort Ord*, then, judicial review of both the EMDF and EMWMF RODs is appropriate, given the egregious violations of the FFA and the failures to perform non-discretionary CERCLA duties discussed above.

Even if a court is unwilling to follow *Fort Ord*, judicial review of the 1999 ROD for the existing EMWMF landfill is appropriate. The CERCLA remedial action selected in the EMWMF ROD has been continually harming Bear Creek for more than 20 years. The EMWMF landfill has been operating without a proper CWA §402 permit authorizing its discharges and specifying effluent discharge limits for mercury, PCBs, or uranium, much less for any of the radionuclides. The CWA RARs, as well as the CERCLA preference for treatment to the maximum extent practicable, have been on the books for all this time; yet, contrary to the plain language in the FFA, there is nothing in the CERCLA EMWMF ROD or its supporting administrative record that, for purposes of the permit exemption in CERCLA §121(e)(1), operates as duplicative or the functional equivalent of a CWA §402 permit, or demonstrates substantive compliance with any of the CWA ARARs for any of the discharges from EMWMF into Bear Creek, be they chemical, metal, or radionuclide in nature.

In addition, the last cell at EMWMF has been built and the landfill is more than 80% full; it is nearing the end of its operational life.<sup>171</sup> Litigation in this case would not delay any cleanup at the site since the EMDF ROD expressly acknowledges the existence of available off-site disposal options, analyzed by DOE in the FS process, which allow cleanup and disposal of contaminated materials to continue unabated; while those off-site options are described as more expensive, the additional cost associated with them in part undoubtedly reflects the fact that the off-site facilities spend the money necessary to comply with various legal requirements under federal and state environmental laws, contrary to the approach taken by EPA and DOE in the EMDF ROD and at EMWMF.

Judicial review of the EMWMF ROD and its arbitrary and capricious failure to comply with CWA RARs and other CERCLA requirements would help ensure future compliance with CERCLA, the NCP, and existing EPA guidance at ORR and other federal facility NPL sites, as required by the ORR FFA and other FFAs. A court might well find that it is inappropriate to shield DOE’s procedurally and substantively flawed, and blatantly unprotective,

166. See, e.g., EMDF ROD, *supra* note 25, at 3-362 and 3-453.

167. *Fort Ord Toxics Project v. California Env’t Prot. Agency*, 189 F.3d 828, 831, 30 ELR 20081 (9th Cir. 1999) (emphasis added) (quoting *McClellan Ecological Seepage Situation v. Perry*, 47 F.3d 325, 329, 25 ELR 20628 (9th Cir. 1995)).

168. The Ninth Circuit’s rationale in *Fort Ord* is consistent with the Agency’s interpretation of the statute first adopted by an EPA Administrator in 1993. In resolving a formal dispute governed by an FFA under CERCLA §120(e), EPA Administrator Carol Browner’s final agency action decided that “[t]he remedy selection decision at a federal facility is made, under §120 of CERCLA, by EPA and the federal agency (or, if as here they cannot agree, by EPA).” In *re Mather Air Force Base, California*, and *In re George Air Force Base, California 3-4* (Apr. 12, 1993), relied upon in a 2014 FFA dispute resolution decision issued by the EPA Regional Administrator for Region 2. See Letter from Judith A. Enck, Regional Administrator, U.S. EPA Region 2, to Mark A. Correll, Deputy Assistant Secretary, *re McGuire Air Force Base Dispute Under Federal Facility Agreement CERCLA-02-2009-2036* (Dec. 11, 2014), available at <https://pinelandsalliance.org/wp-content/uploads/2018/04/epa-letter-to-mcguire-22-dec-2014.pdf>.

169. See *OSI, Inc. v. United States*, 525 F.3d 1294 n.2, 38 ELR 20107 (11th Cir. 2008) (“We do not have before us the question of whether a remedial action on a federal facility that *was* listed on the NPL would be ‘selected under’ §9620 and thus not subject to §9613(h)’s jurisdictional bar, and nothing in this opinion should be read to decide the issue.”). See also *Pollack v. U.S. Department of Defense*, 507 F.3d 522, 37 ELR 20262 (7th Cir. 2007), a case similarly involving a non-NPL facility where the Seventh Circuit ruled that §113(h) precluded judicial review of a federal facility cleanup authorized by CERCLA §104. In discussing the *Fort Ord* decision, the Seventh Circuit states: “We need not agree or disagree with that court’s [the Ninth Circuit’s] conclusion that cleanups to federally owned sites on the NPL are initiated under §120 and hence not subject to the bar of §113(h) because this case does not concern an NPL property.” *Id.* at 526.

170. See *Giovanni v. U.S. Dep’t of the Navy*, 906 F.3d 94 (3d Cir. 2018) (court chose not to follow *Fort Ord*). In addition to CERCLA §113(h), litigation involving cleanup at federal facilities also may raise sovereign immunity issues, which may prevent certain types of actions from moving forward; most federal environmental laws, including CERCLA, have waived sover-

ign immunity in varying degrees. See, e.g., 42 U.S.C. §9620 (CERCLA); 42 U.S.C. §6961 (RCRA); 33 U.S.C. §1323 (CWA).

171. *Henry*, *supra* note 12, at 11.

cleanup decisions from judicial review—both for the land-fill that has been built and the one to be constructed—especially where the Wheeler Decision governs both equally and since it clearly states that remedy selection at the ORR NPL site is being done pursuant to CERCLA §120.

A court might well find that the actions by EPA and DOE violate the clear terms in the FFA and represent a failure to carry out non-discretionary duties under CERCLA. A court might well find that it is not appropriate to allow DOE to proceed based on the Wheeler Decision—EPA’s fundamentally incorrect and corrosive final agency action—that is demonstrably arbitrary, capricious, and not otherwise in accordance with law. A court might well find that a site-specific decisionmaking approach that is so unreasonably doctored and slanted is not a valid excuse for eviscerating the clear mandates in CERCLA designed to establish a minimum federal floor for truly protective cleanup at all Superfund sites, even those owned and operated by the federal government.

## V. Conclusion

Short of litigation, there is a clear path forward to bring the cleanup at ORR in line with CERCLA, the NCP, and existing EPA guidance and policy, as required by the FFA. The scope and intent of Executive Order No. 13990, signed by President Joe Biden on January 21, 2021, clearly covers the Wheeler Decision. The current EPA Administrator should review the Wheeler Decision, withdraw it, and replace it with the 2019 RA Decision that follows the rule of law and achieves the policy objectives found in the Executive Order.<sup>172</sup>

In theory, walking back the fatally flawed Wheeler Decision should not be controversial, not for an Administration that openly, publicly says it supports the rule of law. No federal agency—especially a federal agency covered by an Executive Order issued to promote the rule of law—has a right or expectation to reasonably rely on a previously issued final agency action that blatantly flouts the rule of law. In light of the unique circumstances that gave rise to the issuance of this Executive Order and its specific instructions, fixing the fatal flaws and correcting the remedy selection decisions at ORR do not raise legitimate reliance issues.

Once a legally defensible and correct final dispute resolution decision is in place, the FFA parties can proceed in accordance with CERCLA, the NCP, and existing guidance and policy by preparing a revised FFS based on all available CWA ARARs, and publishing a revised proposed plan that includes a complete analysis of alternatives (including those incorporating BAT and treatment to the maximum extent practicable). A new, properly prepared EMDF ROD that follows the federal environmental statutes and their implementing regulations, and is consistent with extensive EPA guidance, would avoid any potential delays associated with possible litigation and would allow the cleanup at ORR to proceed in a timely manner. As importantly, it would allow the federal government to set an example for following the law to protect the public, not the polluter.

Federal agencies should not use a CERCLA cleanup as an excuse to undermine the key purposes and critically important protections provided for in federal environmental programs, including the CWA and its implementing regulations. EPA and DOE should follow the law, promote true scientific integrity by embracing peer-reviewed science, respect national guidance developed by program experts, and honestly value meaningful public participation in the decisionmaking process at ORR. These and other federal agencies should sincerely fulfill their leadership role in the Superfund program at federal facility sites around the country, not shirk it.

172. Executive Order No. 13990 states:

**Section 1. Policy.** Our Nation has an abiding commitment to empower our workers and communities; promote and protect our public health and the environment; and conserve our national treasures and monuments, places that secure our national memory. Where the Federal Government has failed to meet that commitment in the past, it must advance environmental justice. In carrying out this charge, *the Federal Government must be guided by the best science and be protected by processes that ensure the integrity of Federal decision-making. It is, therefore, the policy of my Administration to listen to the science; to improve public health and protect our environment; to ensure access to clean air and water; to limit exposure to dangerous chemicals and pesticides; to hold polluters accountable*, including those who disproportionately harm communities of color and low-income communities; to reduce greenhouse gas emissions; to bolster resilience to the impacts of climate change; to restore and expand our national treasures and monuments; and to prioritize both environmental justice and the creation of the well-paying union jobs necessary to deliver on these goals.

To that end, this order directs all executive departments and agencies (agencies) to immediately review and, as appropriate and consistent with applicable law, take action to address the promulgation of Federal regulations and other actions during the last 4 years that conflict with these important national objectives, and to immediately commence work to confront the climate crisis.

*Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, WHITE HOUSE (Jan. 20, 2021) (emphasis added), <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/>.