

BEFORE THE  
NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Cape Fear River Watch, MountainTrue,  
and the Yadkin Riverkeeper,  
  
                    Petitioners

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REQUEST FOR  
DECLARATORY RULING

Over fifty years ago, Congress enacted the Clean Water Act “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” To meet that objective, Congress prohibited the discharge of pollutants from point sources without a permit and established a “national goal that the discharge of pollutants into the navigable waters be eliminated by 1985.” The Clean Water Act pursues this goal through technology-based effluent limitations—the *minimum* level of control required in all discharge permits—which operate by requiring permit writers to assess available treatment technologies when permits are issued and impose lower pollutant limits based on those technologies. In practice, improvements in treatment technology should result in improvements in water quality eventually culminating in the elimination of pollution discharges entirely.

This technology-based requirement is a linchpin of the Clean Water Act, and it can make a crucial difference in North Carolina communities. For example, proper application of the technology-based requirement recently resulted in an 86% reduction in the amount of benzene—a known human carcinogen—one industrial discharger was allowed to put into local waterways.

In North Carolina, the Environmental Management Commission, through the Department of Environmental Quality (the “Department”), implements this permitting program. The

Department has not contested the technology-based requirement but interprets and applies the requirement inconsistently across the state. This undermines congressional intent and one of the Clean Water Act’s primary mechanisms for protecting water quality. More importantly, it arbitrarily extends mandatory Clean Water Act protections in some instances—to the benefit of downstream communities and wildlife—while denying them in others. This unfairly forces North Carolina communities to shoulder the burden of harmful and costly pollution that could be easily controlled with existing technology installed by the discharger. Petitioners have brought these concerns to the Department’s attention for years—through meetings, phone calls, and comments—yet the Department continues to inconsistently apply the technology-based requirement. A declaratory ruling from the Environmental Management Commission instructing the Department to interpret and apply the technology-based requirement consistently across the state—in other words, to apply the law as written—would help ensure that businesses, churches, families, communities, fish, and wildlife, enjoy the benefits of improved water quality that can be achieved by application of existing technologies—many of which have existed for decades.

Accordingly, pursuant to N.C. Gen. Stat. § 150B-4 and 15A N.C. Admin. Code 2I .0601 *et seq.*, Cape Fear River Watch, MountainTrue, and the Yadkin Riverkeeper (collectively “Conservation Groups”) submit this request to the Environmental Management Commission for a ruling confirming the Department’s obligation to evaluate and apply technology-based effluent limitations in National Pollutant Discharge Elimination System permits for direct industrial dischargers.<sup>1</sup> As discussed more below, technology-based effluent limitations must be

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<sup>1</sup> North Carolina law defines “industrial discharge” as “the discharge of industrial process treated wastewater or wastewater other than sewage.” 15A N.C. Admin. Code 2B .0202(33). This request excludes discharges from publicly owned treatment works. It also excludes industrial facilities that discharge *into* publicly owned treatment works. The request is focused only on industrial facilities that discharge wastewater *directly* into waters of the United States.

established in those permits based on one of two sources: 1) national effluent limitation guidelines promulgated by the Environmental Protection Agency or 2) the “best professional judgment” of the permit writer. Conservation Groups’ request is focused on the latter category.

Specifically, Conservation Groups request the following rulings:

- a) When National Pollutant Discharge Elimination System permits are issued to direct industrial dischargers, the Department of Environmental Quality must evaluate and apply technology-based effluent limitations consistent with 40 C.F.R. § 125.3(a) for pollutants in the discharge that can be treated or otherwise removed. This evaluation must be documented in the permit fact sheet.
- b) The Department of Environmental Quality’s assessment of technology-based effluent limitations must be made irrespective of the need for any water-quality-based effluent limitations.
- c) For direct industrial dischargers, where the Environmental Protection Agency has not promulgated national effluent limitation guidelines for a particular pollutant, industry, or portion of a discharger’s operation, the Department of Environmental Quality must evaluate and apply technology-based effluent limitations according to the agency’s “best professional judgment.”

#### **I. Nature of the Request**

The North Carolina Administrative Procedure Act provides that on “request of a person aggrieved, an agency shall issue a declaratory ruling . . . to resolve a conflict or inconsistency within the agency regarding an interpretation of the law or a rule adopted by the agency.”<sup>2</sup>

Here, Conservation Groups request a declaratory ruling to resolve the Department’s inconsistent application of key federal and state laws, including 15A N.C. Admin. Code 2H .0118, that protect communities and drinking water sources from industrial pollution. The Clean Water Act and North Carolina law require the Department to incorporate technology-based effluent limitations (“technology-based limits”) based on “best professional judgment” in National Pollutant Discharge Elimination System (“NPDES”) permits for direct industrial

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<sup>2</sup> N.C. Gen. Stat. § 150B-4(a).

dischargers. The Environmental Management Commission and the Department implement the federal Clean Water Act's NPDES permitting program in North Carolina through delegated authority from the Environmental Protection Agency ("EPA"). Under that program, technology-based limits "represent the minimum level of control that must be imposed in a permit."<sup>3</sup> The Environmental Management Commission has promulgated rules adopting these and other requirements. Specifically, 15A N.C. Admin. Code 2H .0118 requires that "[a]ny state NPDES permit shall contain effluent limitations and standards required by 15A NCAC 02B .0400 and the Clean Water Act, which is hereby incorporated by reference including any subsequent amendments and editions."

Despite these obligations, the Department inconsistently applies the technology-based requirement, frequently bypassing it altogether. By disregarding federal and state law, the Department ignores proven technology that industrial facilities can use to prevent pollution from entering North Carolina streams, lakes, and rivers. Conservation Groups' request seeks to correct this practice. While Conservation Groups would applaud the elimination of pollution discharges as originally envisioned under the Clean Water Act, their goal here is simply to ensure consistent application of the technology-based requirement across the state so that industries use existing technologies to reduce their pollution.

## **II. Petitioners**

Conservation Groups are environmental nonprofits that work to protect water quality. Conservation Groups work on behalf of their thousands of members who rely on rivers, streams, and lakes in North Carolina for recreation, education, business, relaxation, and spiritual renewal. As explained in Attachment 1 and the accompanying affidavits, Conservation Groups and their

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<sup>3</sup> 40 C.F.R. § 125.3(a). An index of statutes and regulations frequently cited in this petition is provided in Appendix A.

members are harmed by the Department’s inconsistent application of the technology-based requirement. This has led members of Conservation Groups to invest in expensive water treatment technologies or alternative water supplies out of fear of the industrial pollution present in source waters,<sup>4</sup> avoid recreating on certain rivers,<sup>5</sup> avoid eating fish from rivers,<sup>6</sup> affected their businesses and organizational resources,<sup>7</sup> and generally reduced Conservation Groups’ members’ ability to enjoy local waterways.<sup>8</sup> On the other hand, application of the technology-based requirement mitigates these concerns for Conservation Groups and their members, allowing them to benefit from North Carolina’s waters as intended by the Clean Water Act and North Carolina law.<sup>9</sup> Conservation Groups are “person[s] aggrieved” for purposes of N.C. Gen. Stat. § 150B-4 as explained in more detail in the affidavits included with Attachment 1, which also includes each organization’s contact information.

### **III. Statutory and Regulatory Background**

#### **A. The Federal Clean Water Act**

Congress passed the Clean Water Act in 1972 “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”<sup>10</sup> To achieve that objective, Congress established an “interim goal of [achieving] water quality which provides for the protection and

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<sup>4</sup> Burdette Aff. ¶ 38, Attachment 1A; Wolfe Aff. ¶¶ 15–16, Attachment 1B.

<sup>5</sup> Alsobrook Aff. ¶¶ 10–14, Attachment 1C; Jernigan Aff. ¶¶ 15–16, Attachment 1D; Carson Aff. ¶¶ 16–17, Attachment 1F; Isaac Aff. ¶¶ 22–23, Attachment 1G.

<sup>6</sup> Burdette Aff. ¶ 37; Wolfe Aff. ¶ 20; Caldwell Aff. ¶¶ 24–26, Attachment 1E.

<sup>7</sup> Wolfe Aff. ¶¶ 12–14; Jernigan Aff. ¶ 24.

<sup>8</sup> See generally Attachments 1A–1I.

<sup>9</sup> Miller Aff. ¶¶ 19–22, Attachment 1I.

<sup>10</sup> 33 U.S.C. § 1251(a).

propagation of fish, shellfish, and wildlife and provides for recreation” by 1983 and a larger “goal that the discharge of pollutants into the navigable waters be eliminated by 1985.”<sup>11</sup>

To meet that goal, Congress prohibited the discharge of pollutants<sup>12</sup> from a point source<sup>13</sup> without a National Pollutant Discharge *Elimination* System permit.<sup>14</sup> This permitting program is structured around progressive improvements in pollution control over time to meet Congress’s “national goal” of eliminating discharges of pollutants.<sup>15</sup> The Department shares this understanding, recently citing the NPDES permitting program’s objective “to eliminate all point source discharges to surface waters by 1985.”<sup>16</sup>

NPDES permits control pollution through two primary mechanisms: first, by setting limits based on technologies available to treat pollutants—i.e., technology-based limits—and second, by setting any additional limits necessary to ensure compliance with state-promulgated water quality standards through water-quality-based effluent limitations (“water-quality-based limits”).<sup>17</sup>

NPDES permits “shall contain” technology-based limits.<sup>18</sup> These technology-based limits

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<sup>11</sup> *Id.* § 1251(a)(1)–(2). *See generally* *EPA v. California ex rel. State Water Res. Control Bd.*, 426 U.S. 200, 202 (1976) (explaining that prior to the 1972 Clean Water Act, federal water pollution control “focused on the tolerable effects rather than the preventable causes of water pollution”).

<sup>12</sup> Pollutant is defined in the Clean Water Act in pertinent part as “dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.” 33 U.S.C. § 1362(6).

<sup>13</sup> A point source is defined under the Clean Water Act in pertinent part as “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.” *Id.* § 1362(14).

<sup>14</sup> *Id.* § 1311(a).

<sup>15</sup> *See id.* § 1251(a)(1).

<sup>16</sup> N.C. Dep’t of Env’t Quality, Hearing Officer’s Report and Recommendations for Colonial Pipeline Company--NPDES Permit No. NC0090000 at 30 (June 14, 2023) [hereinafter “Colonial Hearing Report”], Attachment 2.

<sup>17</sup> 33 U.S.C. §§ 1311(b), 1314(b); 40 C.F.R. § 122.44(a)(1), (d).

<sup>18</sup> 40 C.F.R. § 125.3(a); *see also* 33 U.S.C. § 1342(a).

“represent the minimum level of control that *must* be imposed in a permit,”<sup>19</sup> and they are “developed independently of the potential impact of a discharge on the receiving water.”<sup>20</sup> In other words, even if fish and other aquatic wildlife could theoretically survive higher levels of pollution, Congress determined that industrial facilities must control their pollution with existing treatment technology. This extends greater benefits to communities as technology improves and “result[s] in reasonable further progress toward the national goal of eliminating the discharge of all pollutants.”<sup>21</sup> As explained in EPA’s NPDES Permit Writers’ Manual, one of “the major strategies of the Clean Water Act [ ] in making ‘reasonable further progress toward the national goal of eliminating the discharge of all pollutants’ is to require effluent limitations based on the capabilities of the technologies available to control those discharges.”<sup>22</sup> “Congress designed this standard to be technology-forcing, meaning it should force agencies and permit applicants to adopt technologies that achieve the greatest reductions in pollution.”<sup>23</sup>

Permit writers derive technology-based limits from one of two sources. For some industries and pollutants, EPA has established national effluent limitation guidelines which set minimum, nationwide levels of technological control.<sup>24</sup> But where national effluent limitation guidelines are not applicable, technology-based limits “are established on a case-by-case basis

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<sup>19</sup> 40 C.F.R. § 125.3(a) (emphasis added); *see also* 33 U.S.C. § 1342(a).

<sup>20</sup> U.S. Env’t Prot. Agency, NPDES Permit Writers’ Manual at 5-1 (2010) [hereinafter “NPDES Permit Writers’ Manual”], Attachment 3.

<sup>21</sup> 33 U.S.C. § 1311(b)(2)(A) (explaining technology-based limits in terms of “best available technology” for effluent limitation guidelines); *Tex. Oil & Gas Ass’n v. EPA*, 161 F.3d 923, 927 (5th Cir. 1998) (stating that the “national goal that the discharge of pollutants into the navigable waters be eliminated by 1985 . . . was designed to [be] achieve[d] . . . through . . . technology-based discharge limits for all categories and subcategories of water pollution point sources”).

<sup>22</sup> NPDES Permit Writers’ Manual, *supra* note 20, at 5-1; *see also id.* (Technology-based limits “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.”).

<sup>23</sup> *Nat. Res. Def. Council v. EPA*, 808 F.3d 556, 563–64 (2d Cir. 2015); *see id.* at 563 (explaining that technology-based limits “set effluent limitations on a point source based on how effectively technology can reduce the pollutant being discharged”).

<sup>24</sup> 33 U.S.C. §§ 1311(b), 1314(b).

using [permit writers' best professional judgment]."<sup>25</sup> Similarly, where "effluent limitations guidelines only apply to certain aspects of the discharger's operation, or to certain pollutants, other aspects or activities are subject to regulation on a case-by-case basis" by technology-based limits established using best professional judgment.<sup>26</sup> To summarize, where national effluent limitation guidelines are unavailable or only partially available for an industry or pollutant, permit writers must impose technology-based limits by exercising their best professional judgment.

This requirement is particularly important because EPA has only promulgated national effluent limitation guidelines for certain pollutants within 59 industrial categories, leaving the majority of industrial pollution uncovered by an effluent limitation guideline and subject to technology-based control only through the exercise of permit writers' best professional judgment.<sup>27</sup>

To be clear, the exercise of best professional judgment does not require a facility to install a specific technology. Instead, permit writers identify the level of pollution control achievable with existing technologies, develop permit limits accordingly, and leave it to the discharger to determine how to meet that limit—through application of the specific technology or otherwise.

EPA has provided a list of factors for permit writers to consider when developing technology-based limits using best professional judgment. For most industries in North Carolina, permit writers consider the "age of equipment and facilities involved," the "process employed,"

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<sup>25</sup> NPDES Permit Writers' Manual, *supra* note 20, at 5-45; *see* 33 U.S.C. § 1342(a)(1)(B); 40 C.F.R. § 125.3(c)(2).

<sup>26</sup> 40 C.F.R. § 125.3(c)(3); *see also* NPDES Permit Writers' Manual, *supra* note 20, at 5-14 (explaining that due to the Clean Water Act's mandates, "a single permit could have [technology-based limits] based on effluent guidelines, [best professional judgment], and state law, as well as [water-quality-based limits] based on water quality standards").

<sup>27</sup> *See* U.S. Env't Prot. Agency, *Effluent Guidelines Plan*, <https://www.epa.gov/eg/effluent-guidelines-plan> (last visited Aug. 17, 2023).



the “engineering aspects of the application of various types of control techniques,” “[p]rocess changes,” the “cost of achieving such effluent reduction” and non-water quality impacts.<sup>28</sup> This process employs similar factors to those used when EPA develops national effluent limitation guidelines,<sup>29</sup> and EPA has identified “numerous resources” to aid permit writers in making this determination.<sup>30</sup> When developing technology-based limits using best professional judgment, the permit writer’s “[i]ndividual judgments . . . take the place of uniform national [effluent limitation] guidelines, but the technology-based standard remains the same.”<sup>31</sup> This sets a common floor of pollution control regardless of whether a specific facility is subject to national effluent limitation guidelines.

Only *after* evaluating and imposing technology-based limits do permit writers consider the need for water-quality-based limits. If technology-based limits ensure compliance with water quality standards, no further limits are necessary. But if technology-based limits are insufficient to ensure compliance with those standards, permits must also include more stringent water-quality-based limits.<sup>32</sup>

#### B. North Carolina’s Authority to Administer the NPDES Program

Congress initially charged EPA with NPDES permitting responsibilities but allowed states to petition to administer their own NPDES permitting programs in lieu of EPA under

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<sup>28</sup> See 40 C.F.R. § 125.3(d)(3) (providing factors to consider when developing technology-based limits based on best available technology). The Clean Water Act allowed dischargers to phase in advanced technologies over time but today most direct industrial dischargers in North Carolina must apply technology-based limits based on “best available technology.” See *id.* § 125.3(a)(2) (providing timelines for achieving “best available technology” controls).

<sup>29</sup> *Louisville Gas & Elec. Co. v. Ky. Waterways All.*, 517 S.W.3d 479, 487–88 (Ky. 2017). Compare 33 U.S.C. § 1314(b) (providing factors for developing national effluent limitation guidelines), with 40 C.F.R. § 125.3(d) (providing factors for developing technology-based limits using best professional judgment).

<sup>30</sup> NPDES Permit Writers’ Manual, *supra* note 20, at 5-47.

<sup>31</sup> *Tex. Oil & Gas Ass’n*, 161 F.3d at 929. The permit writer’s best professional judgment determinations must be “document[ed] . . . in the NPDES permit fact sheet” to “provide the NPDES permit applicant and the public a transparent, reproducible, and defensible description of how the [technology-based limits derived using best professional judgment] comply with the [Clean Water Act].” NPDES Permit Writers’ Manual, *supra* note 20, at 5-48.

<sup>32</sup> See 40 C.F.R. § 122.44(d).

principles of cooperative federalism.<sup>33</sup> In addition to other requirements states must meet to obtain permitting authority, states must demonstrate that they have adequate authority to issue NPDES permits that “apply, and [e]nsure compliance with” technology-based limits and water-quality-based limits.<sup>34</sup> If approved, states implement the NPDES permitting program within their borders under delegated authority from EPA. But if states fail to fulfill their NPDES permitting responsibilities consistent with the requirements of the Clean Water Act, EPA “shall withdraw approval of such program.”<sup>35</sup>

North Carolina has administered the NPDES permitting program within its borders since 1975.<sup>36</sup> Authority to issue NPDES permits rests with the Environmental Management Commission,<sup>37</sup> which has delegated that authority to the Department<sup>38</sup> where it is exercised by the Division of Water Resources.

North Carolina’s delegated permitting program is governed by a Memorandum of Agreement with EPA, which “sets forth procedures for how the [NPDES] program will be administered by the State of North Carolina, Environmental Management Commission and [the Department].”<sup>39</sup> The Memorandum of Agreement charges the Environmental Management Commission and the Department with “ensuring that the State NPDES program is consistent with all of the requirements of this [Memorandum of Agreement]” and other Clean Water Act

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<sup>33</sup> 33 U.S.C. § 1342(b).

<sup>34</sup> *Id.* § 1342(b)(1)(A); *see also* 40 C.F.R. Part 123 Subpart B (providing requirements for state NPDES program submissions).

<sup>35</sup> 33 U.S.C. § 1342(c)(3).

<sup>36</sup> *See* N.C. Dep’t of Env’t Quality, *NPDES Wastewater*, [https://www.deq.nc.gov/about/divisions/water-resources/permitting/npdes-wastewater#:~:text=All%20wastewater%20discharges%20to%20surface,Environmental%20Protection%20Agency%20\(EPA\)](https://www.deq.nc.gov/about/divisions/water-resources/permitting/npdes-wastewater#:~:text=All%20wastewater%20discharges%20to%20surface,Environmental%20Protection%20Agency%20(EPA)) (last visited Aug. 20, 2023).

<sup>37</sup> *See* N.C. Gen. Stat. § 143-215.1.

<sup>38</sup> 15A N.C. Admin. Code 2A .0105.

<sup>39</sup> National Pollutant Discharge Elimination System Memorandum of Agreement Between the State of North Carolina and the United States Environmental Protection Agency Region 4 at 1 (2007), Attachment 4.

requirements,<sup>40</sup> including “[t]echnology-based treatment requirements . . . [which] represent the minimum level of control that must be imposed in a [NPDES] permit.”<sup>41</sup>

### C. North Carolina Law Implementing Technology-Based Limits

North Carolina’s water pollution control laws were enacted, in part, to “to enable the Department and the [Environmental Management] Commission to qualify to administer federally mandated programs of environmental management” like the NPDES permitting program.<sup>42</sup> As a result, technology-based requirements under the federal Clean Water Act were adopted into state law.

Like the Clean Water Act, North Carolina law prohibits the discharge of pollutants from point sources without an NPDES permit.<sup>43</sup> Rules promulgated by the Environmental Management Commission require that “[a]ny state NPDES permit shall contain effluent limitations and standards required by 15A NCAC 02B .0400 and the Clean Water Act, which is hereby incorporated by reference including any subsequent amendments and editions.”<sup>44</sup> In other words, NPDES permits in North Carolina must include technology-based limits. The Environmental Management Commission’s rules further provide that technology-based limits should be established pursuant to national effluent limitation guidelines or, where those guidelines are unavailable, separately “calculated by the staff” using best professional judgment.<sup>45</sup>

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<sup>40</sup> *Id.* at 28.

<sup>41</sup> 40 C.F.R. § 125.3(a).

<sup>42</sup> N.C. Gen. Stat. § 143-211(c). To obtain delegated permitting authority, North Carolina was required to demonstrate through the State Attorney General that “that the laws of the State . . . provide adequate authority” to administer the NPDES program consistent with the Clean Water Act’s requirements. 40 C.F.R. § 123.23(a).

<sup>43</sup> N.C. Gen. Stat. § 143-215.1(a)(1); *see id.* § 143-213 (defining “waste” and “outlet”).

<sup>44</sup> 15A N.C. Admin. Code 2H .0118; *see also* 15A N.C. Admin. Code 2B .0404 (“Effluent limitations shall be developed by the staff for all existing or proposed discharges to the surface waters of the state”).

<sup>45</sup> *See* 15A N.C. Admin. Code 2B .0406(b)(3).

Technology-based limits are defined under North Carolina law as “those effluent limits that are based on minimum treatment requirements,” and “minimum treatment requirements” are defined as “the minimum technology-based effluent limitations that a specific discharge would be required to meet in order to satisfy applicable treatment standards.”<sup>46</sup> “Minimum treatment requirements must be met even if the receiving waters affected can or are expected to be able to accept higher pollutant-load levels and still meet applicable water quality standards.”<sup>47</sup> When exercising best professional judgment, the Department is instructed to develop technology-based limits for industrial facilities “using the projected limits of the Environmental Protection Agency, the Environmental Protection Agency development document, and other available information.”<sup>48</sup> Like federal law, state law—including rules promulgated by the Environmental Management Commission—require the Department to evaluate and apply technology-based limits in NPDES permits for direct industrial dischargers based on best professional judgment.

Notably, the Department does not have to shoulder the responsibility of researching effective treatment technologies. Instead, North Carolina law gives the agency the authority to ask permit applicants for the information necessary to calculate technology-based limits. The agency “may require an applicant to submit plans, specifications, and other information [the

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<sup>46</sup> *Id.* § 2B .0403(13), (6). Other states that run delegated NPDES permitting programs have similar requirements. *See, e.g.*, S.C. Code Ann. Regs. 61-9.125.3(a) (“Technology-based treatment requirements under section 301(b) of the [Clean Water Act] represent the minimum level of control that must be imposed in an NPDES permit issued under section 402 of the [Clean Water Act].”); Tenn. Comp. R. & Regs. 0400-40-05-.09 (“Permits shall impose . . . technology-based effluent limitations, unless more stringent water quality-based effluent limitations are required for these pollutants[.]”); 9 Va. Admin. Code 25-31-220 (requiring the use of technology-based limits).

<sup>47</sup> 15A N.C. Admin. Code 2B .0403(6); *see also id.* § 2B .0404(a) (explaining that “if the discharge is subject to both technology based and water quality based effluent limitations for a parameter, the more stringent limit shall apply”). Courts in other states have also upheld the requirement to include technology-based limits in state-issued NPDES permits. *See, e.g., N. Cheyenne Tribe v. Mont. Dep’t of Env’t Quality*, 234 P.3d 51, 58 (Mont. 2010) (confirming requirement to impose technology-based limits in NPDES issued by Montana); *Louisville Gas & Elec. Co.*, 517 S.W.3d at 487–88 (confirming the same in Kentucky).

<sup>48</sup> 15A N.C. Admin. Code 2B .0406(b)(3). Adjacent states include similar requirements. *See, e.g.*, Tenn. Comp. R. & Regs. 0400-40-05-.09 (“For industrial discharges without applicable federal effluent limitations guidelines, best professional judgment should be employed to establish appropriate effluent limitations and standards.”).

Department] considers necessary to evaluate the application,”<sup>49</sup> which includes information necessary to craft technology-based limits. Indeed, in some contexts, North Carolina law specifically requires applicants to provide information about treatment technologies, including “whether there are cost-effective alternative technologies that will achieve greater protection of water quality.”<sup>50</sup> The Department has in some instances required permit applicants to provide information on the availability of treatment technologies,<sup>51</sup> but in other instances ignored information on available technologies voluntarily provided by industrial dischargers.<sup>52</sup>

#### **IV. Factual Basis for Request for Declaratory Ruling**

Despite the federal and state mandates requiring the Department to apply technology-based limits when issuing NPDES permits for direct industrial dischargers, the agency does so irregularly and unpredictably when required to exercise its best professional judgment. In recent months alone, the Department has refused to even consider technology-based limits in several permits, explaining in at least one instance that it “has no institutional capacity to develop [technology-based limits based on best professional judgment] in according [sic] with the EPA guidance” and expressing concerns over industry’s response to such requirements.<sup>53</sup> However, in other instances, technology-based limits were implemented “[b]ased on best professional judgment in accordance with 40 CFR 125.3(c)(2).”<sup>54</sup> The following examples illustrate the inconsistency in the agency’s practice of evaluating and applying technology-based limits based on best professional judgment in NPDES permits for direct industrial dischargers.

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<sup>49</sup> N.C. Gen. Stat. § 143-215.1(c)(1).

<sup>50</sup> *Id.* § 143-215.1(h) (applying to applicants for new or modified NPDES permits).

<sup>51</sup> See Letter from Douglas Dowden, Env’t Program Supervisor, N.C. Dep’t of Env’t Quality, to Brian Lyncha, Senior Project Manager, Verdantas LLC (June 12, 2023), Attachment 5.

<sup>52</sup> See Section IV(A)(1).

<sup>53</sup> N.C. Dep’t of Env’t Quality, Response to SELC Comments--NPDES Permit No. NC0089109 at 1 (July 10, 2023) [hereinafter “Response to SELC Befesa Comments”], Attachment 6.

<sup>54</sup> N.C. Dep’t of Env’t Quality, Final Fact Sheet for NPDES Permit No. NC009000 at 8 [hereinafter “Colonial Final Fact Sheet”], Attachment 7.

A. Examples of Permits Without Technology-Based Limits

1. *Befesa Zinc Metals - NPDES Permit No. NC0089109*

Befesa Zinc Metals operates a hydrometallurgical zinc metal production facility that extracts zinc from waelz oxide, which is itself produced from electric arc furnace dust—a hazardous waste.<sup>55</sup> The facility discharges its effluent to the Broad River near Forest City under NPDES Permit No. NC0089109<sup>56</sup> and is not subject to national effluent limitation guidelines.<sup>57</sup> According to the facility’s owner, “there is no wastewater treatment system” at the facility<sup>58</sup> and, as a result, its effluent “has a very high concentration of chlorides,” along with arsenic, cadmium, chromium, copper, cyanide, lead, nickel, zinc, selenium, molybdenum, and other pollutants.<sup>59</sup> The effluent is harmful enough that it cannot be discharged “to the soil surface” because it will “contaminate the soil and the aquafer [sic].”<sup>60</sup> Nor can it be sent to the nearby publicly owned treatment works because “it will cause a major toxicity problem . . . which will result in a complete failure of [that system].”<sup>61</sup> Instead, it is piped without treatment directly into the Broad River.

The facility has identified for the Department at least three treatment technologies—Reverse Osmosis, electrodialysis, and chemical precipitation—that could control pollution in the company’s effluent before it reaches the Broad River and downstream communities, especially

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<sup>55</sup> R. Buse et al., *Metals Recovery from Furnaces Dust: Waelz Process*, 5 *La Metallurgia Italiana* 106, 19–27 (2014), [https://www.researchgate.net/publication/286726050\\_Metals\\_recovery\\_from\\_furnaces\\_dust\\_Waelz\\_process](https://www.researchgate.net/publication/286726050_Metals_recovery_from_furnaces_dust_Waelz_process).

<sup>56</sup> See N.C. Dep’t of Env’t Quality, Final NPDES Permit No. NC0089109 (July 31, 2023) [hereinafter “Befesa Zinc Permit”], Attachment 8.

<sup>57</sup> See N.C. Dep’t of Env’t Quality, Fact Sheet for NPDES Permit No. NC0089109 at 1 (May 3, 2023) [hereinafter “Befesa Zinc Fact Sheet”], Attachment 9.

<sup>58</sup> Befesa Zinc Metals, Permit Renewal Application No. NC0089109 at PDF pg. 40 (Dec. 29, 2022), Attachment 10.

<sup>59</sup> Befesa Zinc Fact Sheet, *supra* note 57, at 2.

<sup>60</sup> *Id.*

<sup>61</sup> *Id.*

chlorides.<sup>62</sup> Of these three, the facility identified Reverse Osmosis as the “most effective . . . treatment option[] for the high chloride concentrations in the process waste.”<sup>63</sup> Reverse Osmosis was also identified as the “most feasible treatment option for removal of chlorides” and the facility explained that it could reduce chloride levels by approximately 97%.<sup>64</sup> The facility has developed price estimates for installing this technology and provided that information to the Department.<sup>65</sup> But instead of using this information to evaluate technology-based limits based on best professional judgment, the Department explained that it has no intention of evaluating and developing technology-based limits at all.<sup>66</sup>

As a result, the facility’s NPDES permit includes no technology-based limits whatsoever, which allows unnecessarily high (in fact, virtually unlimited) discharges of chlorides and other pollutants into the Broad River. The only numeric limit in the permit is a water-quality-based limit for cadmium.<sup>67</sup>

In connection with the facility’s recent renewal of its NPDES permit, MountainTrue raised concerns regarding the need for technology-based limits, pointing out that the facility had already provided much or all of the information the Department needs to use its best professional judgment to develop such a limit. The Department’s response to comments (prepared just five business days later) dismissed the technology-based obligation outright, citing concerns over capacity and potential legal challenges.<sup>68</sup> The Department plainly made no effort to develop technology-based limits for this facility. As a result, downstream communities, river users, and

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<sup>62</sup> Befesa Zinc Metals, Permit Renewal Application No. NC0089109 at PDF pg. 17 (Sept. 8, 2017), Attachment 11. The 2017 application was submitted by the previous facility owner—American Zinc Products, LLC.

<sup>63</sup> *Id.*

<sup>64</sup> *Id.* at PDF pgs. 23, 17.

<sup>65</sup> *Id.* at PDF pg. 17.

<sup>66</sup> See Response to SELC Befesa Comments, *supra* note 53, at 1 (explaining that the Department made no attempt to evaluate and apply technology-based limits based on best professional judgment at this facility).

<sup>67</sup> See Befesa Zinc Permit, *supra* note 56.

<sup>68</sup> See Response to SELC Befesa Comments, *supra* note 53, at 1.

wildlife continue to bear the burden of Befesa Zinc Metals' polluted discharge even though technologies exist that could reduce some pollutants in the effluent by as much as 97%.

## 2. *Quartz Corp USA - NPDES Permit No. NC0000353*

Quartz Corp USA (“Quartz Corp”) is permitted to discharge 3.5 million gallons per day of effluent from feldspar mine operations into the North Toe River near Spruce Pine.<sup>69</sup> The facility is not subject to national effluent limitation guidelines and is currently operating under an administratively continued NPDES permit that was issued in 2012 but expired in 2016.<sup>70</sup> The Department provided a revised, draft permit for public review in 2018, but never finalized that permit.<sup>71</sup>

The Department did not attempt to develop technology-based limits in either the active 2012 permit or the draft 2018 permit. Both permits include only water-quality-based limits.<sup>72</sup> The fact sheet accompanying the 2018 draft permit explains that the Department chose to forego technology-based limits because the “facility is not subject to any [national] Effluent Limitation Guidelines,” but the fact sheet says nothing about any attempt to develop limits based on the Department’s best professional judgment.<sup>73</sup> As a result of the Department’s failure to appropriately consider technology-based limits over multiple permitting cycles, the permit only has lax and outdated water-quality-based limits—limits that have not changed since at least 1996.<sup>74</sup>

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<sup>69</sup> N.C. Dep’t of Env’t Quality, Final NPDES Permit No. NC0000353 (Apr. 30, 2012) [hereinafter “2012 Quartz Corp Permit”], Attachment 12.

<sup>70</sup> *Id.*

<sup>71</sup> N.C. Dep’t of Env’t Quality, Draft Fact Sheet for NPDES Permit No. NC0000353 (Sept. 19, 2018) [hereinafter “Draft Quartz Corp Fact Sheet”], Attachment 13.

<sup>72</sup> 2012 Quartz Corp Permit, *supra* note 69, at 7; Draft Quartz Corp Fact Sheet, *supra* note 71, at 7–8.

<sup>73</sup> Draft Quartz Corp Fact Sheet, *supra* note 71, at 6.

<sup>74</sup> N.C. Dep’t of Env’t Quality, Final NPDES Permit No. NC0000353 (Dec. 16, 1996), Attachment 14.



Treatment technologies have long been available to reduce the pollution in this facility's discharge. In the 1970s, EPA began the process of developing national effluent limitation guidelines that would apply to Quartz Corps' discharge but never finalized those guidelines.<sup>75</sup> The guidelines would have applied to fluoride and total suspended solids—two pollutants of particular concern in Quartz Corps' discharge because they can adversely affect downstream populations of endangered Appalachian elktoe mussels.<sup>76</sup> Through the process of developing national effluent limitation guidelines, EPA identified a treatment technology—single-stage chemical precipitation—that could reduce fluoride concentrations to less than 10 mg/L.<sup>77</sup> In 2010, EPA revisited its 1970s findings and found that “[c]urrent technologies are achieving fluoride concentrations at least as effective, sometimes achieving 2 mg/L effluent fluoride.”<sup>78</sup> Some of these treatment technologies have been used by similar dischargers in other places for nearly fifty years.<sup>79</sup> Nevertheless, the Department has refused to use, or even consider, these technologies in developing technology-based limits for Quartz Corps' discharge. Instead, the Department continues to rely on decades-old water-quality-based limits, allowing Quartz Corp to release unnecessary excess pollution into the North Toe River.

### 3. *DAK Americas - NPDES Permit No. NC0003719*

DAK Americas, LLC, operates an industrial facility in Fayetteville, which consists of three manufacturing operations, including a resins plant, a polyethylene terephthalate plant, and a

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<sup>75</sup> See, e.g., U.S. Env't Prot. Agency, Development Document for Interim Final Effluent Limitations Guidelines and New Source Performance Standards for the Mineral Mining and Processing Industry Point Source Category (1976), [https://www.epa.gov/sites/default/files/2015-10/documents/mineral\\_mining\\_dd\\_1976.pdf](https://www.epa.gov/sites/default/files/2015-10/documents/mineral_mining_dd_1976.pdf).

<sup>76</sup> See Appalachian Elktoe Determined To Be an Endangered Species, 59 Fed. Reg. 60,324, 60,326 (Nov. 23, 1994) (codified at 50 C.F.R. § 17.11).

<sup>77</sup> See U.S. Env't Prot. Agency, Technical Support Document for the 2010 Effluent Guidelines Program Plan, EPA 820-R-10-021 at 9-14 (Sept. 2011), Attachment 15.

<sup>78</sup> *Id.* at 9-20.

<sup>79</sup> *Id.*

recycling facility.<sup>80</sup> All three operations produce wastewater that is processed through an onsite wastewater treatment plant and then discharged into the Cape Fear River less than 10 miles upstream of a drinking water supply.<sup>81</sup>

DAK Americas discharges wastewater pursuant to NPDES Permit No. NC0003719, which was issued in August 2018 and expired in October 2022 but has been administratively continued.<sup>82</sup> Among other pollutants, DAK Americas discharges extraordinarily high levels of 1,4-dioxane, a probable human carcinogen.<sup>83</sup> Since August 2018, DAK Americas' average daily discharge of 1,4-dioxane has exceeded 5,300 parts per billion, a number more than 15,000 times what the state considers safe for drinking water supplies.<sup>84</sup> Over the past five years, DAK Americas' 1,4-dioxane discharges have reached concentrations as high as 22,000 parts per billion<sup>85</sup> and has exceeded 10,000 parts per billion in nearly 20% of the samples collected.<sup>86</sup> DAK Americas also discharges per- and polyfluoroalkyl substances ("PFAS"), chemicals known to cause harm to human health and the environment even at extremely low levels of contamination.<sup>87</sup> These chemicals build up in the human body and can cause a host of health problems including developmental effects to fetuses and infants, kidney and testicular cancer, liver malfunction, ulcerative colitis, and many others.<sup>88</sup> PFAS also harm wildlife and can

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<sup>80</sup> DAK Americas, Permit Renewal and Modification NPDES Permit No. NC0003719 at PDF pgs. 4–11 (May 3, 2022), Attachment 16.

<sup>81</sup> *Id.* at PDF pgs. 13, 81.

<sup>82</sup> N.C. Dep't of Env't Quality, NPDES Permit No. NC0003719 (June 18, 2018), Attachment 17.

<sup>83</sup> *See* Summary of DAK Americas' Discharge Monitoring Reports (2018–2023) [hereinafter "DAK 2018–2023 DMRs Summary"], Attachment 18. This summary of DAK Americas' discharge monitoring reports was prepared by the Southern Environmental Law Center. The discharge monitoring reports for the relevant period are over 500 pages but can be provided if necessary.

<sup>84</sup> *Id.*; N.C. Dep't of Env't Quality, Cape Fear Industrial PFAS & 1,4-dioxane Sampling at 11 (2020) [hereinafter "Cape Fear Sampling"], Attachment 19.

<sup>85</sup> DAK 2018–2023 DMRs Summary, *supra* note 83 (1,4-dioxane concentration on September 30, 2018).

<sup>86</sup> *See generally id.*

<sup>87</sup> Cape Fear Sampling, *supra* note 84, at 11.

<sup>88</sup> Arlene Blum et al., *The Madrid Statement on Poly- and Perfluoroalkyl Substances (PFAS)*, 123 *Env't Health Persp.* 5, A 107 (2015); U.S. Env't Prot. Agency, *Drinking Water Health Advisories for PFAS: Fact Sheet for*

bioaccumulate in fish at levels that make the fish unsafe to eat.<sup>89</sup> Neither PFAS nor 1,4-dioxane are subject to national effluent limitation guidelines.

DAK Americas' 2018 NPDES permit did not impose technology-based limits or water-quality-based limits for PFAS or 1,4-dioxane. And the Department refused to evaluate or impose technology-based limits for either chemical in a recent draft permit issued to the facility—despite years of sampling confirming the presence of these pollutants in DAK Americas' discharge.<sup>90</sup> Instead, contrary to federal and state law, the agency opted to only include monitoring conditions for PFAS and 1,4-dioxane.<sup>91</sup> The Department's refusal to control PFAS and 1,4-dioxane stands in stark contrast to how the agency handled other pollutants in the draft NPDES permit. Technology-based limits for biochemical oxygen demand and total suspended solids released from DAK America's recycling plant “were developed based on [best professional judgment].”<sup>92</sup> The Department has indicated it will “reassess[]” the need for a *water-quality-based limit* for 1,4-dioxane, but continues to ignore PFAS and the requirement to impose *technology-based limits* for both pollutants.<sup>93</sup>

Evaluating technology-based limits as required by law would show that technology exists to remove 1,4-dioxane and PFAS from industrial wastewater. 1,4-Dioxane can be removed using

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*Communities* at 1–2 (2022), <https://perma.cc/T7FQ-EKD6>; Nathan J. Cohen, *Exposure to Perfluoroalkyl Substances and Women's Fertility Outcomes in a Singaporean Population-Based Preconception Cohort*, 873 *Sci. Total Env't* 162267 (2023).

<sup>89</sup> See N.C. Dep't of Health & Human Servs., *NCDHHS Recommends Limiting Fish Consumption from the Middle and Lower Cape Fear River Due to Contamination With “Forever Chemicals”* (July 13, 2023), <https://www.ncdhhs.gov/news/press-releases/2023/07/13/ncdhhs-recommends-limiting-fish-consumption-middle-and-lower-cape-fear-river-due-contamination>.

<sup>90</sup> N.C. Dep't of Env't Quality, Draft NPDES Permit No. NC0003719 at 3, 5 (Apr. 27, 2023) [hereinafter “Draft DAK Permit”], Attachment 20; N.C. Dep't of Env't Quality, Draft Fact Sheet NPDES Permit No. NC0003719 at 6–7 (Feb. 27, 2023) [hereinafter “Draft DAK Fact Sheet”], Attachment 21.

<sup>91</sup> Draft DAK Permit, *supra* note 90, at 3, 5.

<sup>92</sup> Draft DAK Fact Sheet, *supra* note 90, at 6. Limits for biochemical oxygen demand and total suspended solids released from DAK Americas' resins operations are subject to a national effluent limitation guideline and limits were applied to those discharges accordingly.

<sup>93</sup> Jenny Graznak, N.C. Dep't of Env't Quality, *Semi-Annual Progress Report on 1,4-dioxane in the Cape Fear River Basin* at slide 19–20 (July 12, 2023).

advanced oxidation processes, such as using ultraviolet light in combination with hydrogen peroxide.<sup>94</sup> A similar process has been used at the Tucson International Airport Area Superfund Site to remove legacy 1,4-dioxane contamination.<sup>95</sup> That treatment system can remove over 97% of the chemical from polluted water.<sup>96</sup> Other treatment options are similarly effective, including ozone-based and catalytic advanced oxidation processes.<sup>97</sup> Treatment technology for 1,4-dioxane has also been installed to treat wastewater discharges at facilities in North Carolina.<sup>98</sup>

Like 1,4-dioxane, PFAS can be effectively removed with available technologies, and the Department has required use of those technologies in NPDES permits. For example, a granular activated carbon treatment system at the Chemours' facility (discussed in more detail below) has reduced PFAS concentrations in wastewater as high as 345,000 parts per trillion to nearly nondetectable concentrations,<sup>99</sup> improving the drinking water supply for nearly 500,000 people downstream.

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<sup>94</sup> Amie C. McElroy et al., *1,4-Dioxane in Drinking Water: Emerging for 40 Years and Still Unregulated*, 7 *Current Op. in Env't Sci. & Health* 117, 119 (2019), <https://www.sciencedirect.com/science/article/abs/pii/S2468584418300485?via%3Dihub>; TrojanUV, *Update on Emerging Contaminants: 1,4-dioxane: Advanced Oxidation Processes* (2022), [https://cdn.brandfolder.io/MA3415EC/at/9xxcn88kxgbnk985p2kmt/TUV\\_1\\_4\\_Dioxane\\_Fact\\_Sheet\\_EN.pdf](https://cdn.brandfolder.io/MA3415EC/at/9xxcn88kxgbnk985p2kmt/TUV_1_4_Dioxane_Fact_Sheet_EN.pdf).

<sup>95</sup> See TrojanUV, *Advanced Treatment for 1,4-Dioxane – Tucson Removes Contamination Through UV-oxidation* (2019), <https://www.resources.trojanuv.com/wp-content/uploads/2018/05/Treatment-of-Groundwater-Contaminated-with-14-Dioxane-Tucson-Arizona-Case-Study-Environmental-Contaminant-Treatment.pdf>.

<sup>96</sup> *Id.* at 2.

<sup>97</sup> See Yuyin Tang and Xinwei Mao, *Recent Advances in 1,4-dioxane Removal Technologies for Water and Wastewater Treatment*, 15 *Water* 1535 (2023), <https://www.mdpi.com/2073-4441/15/8/1535>.

<sup>98</sup> See, e.g., City of Greensboro, *EMC SOC WQ S19-010 Year One Report: May 1, 2021 – April 30, 2022* at 4 (June 13, 2022), <https://www.greensboro-nc.gov/home/showpublisheddocument/53017/637908166316270000>.

<sup>99</sup> See Parsons, *Engineering Report – Old Outfall 002 GAC Pilot Study Results* (Sept. 2019), <https://www.chemours.com/ja/-/media/files/corporate/12e-old-outfall-2-gac-pilot-report-2019-09-30.pdf?rev=6e1242091aa846f888afa895eff80e2e&hash=040CAA7522E3D64B9E5445ED6F96B0FB>; see also Chemours Outfall 003, NPDES No. NC0089915 Discharge Monitoring Reports (2020–2022), <https://perma.cc/8YND-XT5M>.

4. *Camp Lejeune Advanced Wastewater Treatment Plant – NPDES Permit No. NC0063029*

In response to the recent discovery of extensive PFAS contamination at Camp Lejeune, the United States Marine Corps has sought to operate two mobile PFAS treatment systems which would use granular activated carbon and ion exchange technologies to treat “PFAS impacted construction or operational wastes, including groundwater,” in Onslow County.<sup>100</sup> The wastewater from the contaminated operations and groundwater will be pumped into the PFAS remediation systems, treated, and ultimately discharged into the New River.<sup>101</sup>

The Department issued a final permit to Camp Lejeune that addresses the operation of these treatment systems,<sup>102</sup> but does not impose technology-based limits.<sup>103</sup> Instead, the Department imposed a water-quality-based limit of 70 parts per trillion for two PFAS compounds based on an obsolete “EPA health advisory,”<sup>104</sup> which EPA has since determined is too lenient to protect human health.<sup>105</sup> The Department ignored its obligation to impose technology-based limits despite the fact that the agency previously told the permittee it would “implement[] [best professional judgment] standards on [a] case by case basis” for PFAS specifically in this permit.<sup>106</sup>

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<sup>100</sup> N.C. Dep’t of Env’t Quality, Fact Sheet NPDES Permit No. NC0063029 at 2 (May 24, 2023) [hereinafter “Camp Lejeune Fact Sheet”], Attachment 22; *see also* E-mail from Travis Voorhees, Env’t Eng’r, U.S. Marine Corps, to Charles Weaver and Emily Richards, Env’t Eng’r, N.C. Dep’t of Env’t Quality (Dec. 28, 2022), Attachment 23.

<sup>101</sup> Camp Lejeune Fact Sheet, *supra* note 100, at 2.

<sup>102</sup> *See* N.C. Dep’t of Env’t Quality, NPDES Permit Modification Permit No. NC0063029 (Aug. 3, 2023), Attachment 24.

<sup>103</sup> *Id.* at 13.

<sup>104</sup> *Id.*; Camp Lejeune Fact Sheet, *supra* note 100, at 3.

<sup>105</sup> Lifetime Drinking Water Health Advisories for Four Perfluoroalkyl Substances, 87 Fed. Reg. 36,848, 36,848–49 (June 21, 2022).

<sup>106</sup> Email from Sergei Chernikov, Env’t Eng’r, N.C. Dep’t of Env’t Quality, to Charles Weaver, Env’t Specialist, N.C. Dep’t of Env’t Quality (Jan. 3, 2023), Attachment 23.

Through the permitting process, Camp Lejeune disclosed its plans to use granular activated carbon and ion exchange technologies to treat the PFAS contamination.<sup>107</sup> The Department knows from other facilities that these technologies can remove PFAS to virtually non-detectable levels. Nevertheless, the Department chose not to use the information provided by Camp Lejeune to develop technology-based limits.

Inclusion of technology-based limits in this permit is critical because the technologies Camp Lejeune has chosen are only effective *if* properly maintained. Appropriately developing technology-based permit limits—as opposed to the much more lax and obsolete water-quality-based limit in Camp Lejeune’s permit—requires dischargers to conduct frequent maintenance, thereby protecting the public from unnecessary and dangerous PFAS pollution. To be sure, Conservation Groups do not question Camp Lejeune’s intention to properly maintain its treatment technologies, but incorporating technology-based limits is still important to give the public legal assurance that those technologies will be optimally operated.

## B. Examples of Permits with Technology-Based Limits

### 1. *Chemours - NPDES Permit No. NC0090042*

The Chemours Company FC, LLC (“Chemours”) is a chemical manufacturing facility in Fayetteville. Among other chemicals, Chemours manufactures PFAS and has been releasing those toxic chemicals into the Cape Fear River—upstream of the drinking water supply for nearly 500,000 people—for over four decades.<sup>108</sup> Following legal action instituted by the Department and Cape Fear River Watch, Chemours was required to construct a groundwater

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<sup>107</sup> See Camp Lejeune Fact Sheet, *supra* note 100, at 1.

<sup>108</sup> Steve DeVane, *GenX Not the Only Possible Toxin in Cape Fear River*, The Fayetteville Observer (July 15, 2017), <https://perma.cc/KPY7-RQZM>; see Vaughn Hagerty, *Toxin Taints CFPWA Drinking Water*, Star News Online (June 7, 2017); see also Cape Fear Public Utility Authority, 2022 Annual Report (2022), <https://perma.cc/KY3P-59F2> (explaining the utility serves 200,000 people); Brunswick Cnty. N.C., *Frequently Asked Questions: Water Treatment Upgrades and Rates*, <https://perma.cc/U6GQ-2KJN> (explaining the utility serves over 300,000 people).

treatment system that would capture, pump, and treat PFAS-contaminated groundwater before it reached the Cape Fear River.<sup>109</sup>

To operate the groundwater treatment system, Chemours was required to obtain an NPDES permit. In September 2022, the Department issued Chemours NPDES Permit No. NC0090042, which imposed technology-based limits for two specific PFAS in Chemours' discharge.<sup>110</sup> To calculate the technology-based limits for these pollutants, the Department used "best professional judgement," "the procedure established in Chapter 5 of USEPA NPDES Permit Writers' Manual," and data showing that granular activated carbon could reduce PFAS in the discharge to virtually non-detectable levels.<sup>111</sup> Relying on "system design" and the reductions that granular activated carbon could achieve, the Department established technology-based limits for the two PFAS at issue at 20 and 10 parts per trillion, respectively.<sup>112</sup> In issuing the permit, the Department recognized that the "limits that must be included in an NPDES permit . . . must . . . ensure compliance with all applicable regulations, including regulations concerning the establishment of [technology-based limits] based on the permitting record before the agency at the time of permit issuance."<sup>113</sup>

## 2. Colonial Pipeline - NPDES Permit No. NC0090000

NPDES Permit No. NC0090000 authorizes Colonial Pipeline Company to discharge effluent into North Prong Clark Creek from a groundwater remediation system installed to clean

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<sup>109</sup> Consent Order, *North Carolina v. The Chemours Company FC, LLC*, 17 CVS 580 (Bladen Cnty. Super. Ct., Feb. 25, 2019); Addendum to Consent Order Paragraph 12, *North Carolina v. The Chemours Company FC, LLC*, 17 CVS 580 (Bladen Cnty. Super. Ct., Oct. 12, 2020).

<sup>110</sup> N.C. Dep't of Env't Quality, NPDES Permit No. NC0090042 at 3 (Sept. 15, 2022) [hereinafter "Chemours Outfall 004 Permit"], Attachment 25.

<sup>111</sup> N.C. Dep't of Env't Quality, Fact Sheet NPDES Permit No. NC0090042 at 13–14 (Sept. 14, 2022) [hereinafter "Chemours Fact Sheet"], Attachment 26.

<sup>112</sup> Chemours Outfall 004 Permit, *supra* note 110, at 3.

<sup>113</sup> N.C. Dep't of Env't Quality, Hearing Officer Report for New NPDES Permit NC0090042, *The Chemours Company FC, LLC, Fayetteville, NC* at 2, 5 (July 14, 2022), Attachment 27.

up a 2020 gasoline pipeline spill near Huntersville.<sup>114</sup> The effluent includes a host of pollutants commonly found in gasoline including lead, benzene, and chloromethane, among others.<sup>115</sup> After acknowledging that “[t]here are no effluent limitation guidelines” applicable to the discharge, the Department developed technology-based limits “[b]ased on best professional judgment in accordance with 40 CFR 125.3(c)(2).”<sup>116</sup> These limits were developed in light of the “original goal of the [NPDES] program . . . to eliminate all point source discharges to surface waters by 1985,” a goal the Department acknowledged “was not achieved,” but that “the NPDES program continues to strive toward.”<sup>117</sup>

Consistent with the Clean Water Act and state law, technology-based limits “were implemented in the final permit where [they were] found to [be] more stringent than [water-quality-based effluent limitations].”<sup>118</sup> These technology-based limits were developed based on the Department’s review of technologies used by “similar industrial methods.”<sup>119</sup>

By following the law and imposing technology-based limits, the Department secured meaningful protections for downstream communities. For example, the draft permit for this facility included a water-quality-based limit of 274 µg/L for benzene—a known human carcinogen. To the Department’s credit, it replaced the water-quality-based limit in the draft permit with a technology-based limit in the final permit which reduced allowable benzene concentrations to 37 µg/L—an 86% reduction.<sup>120</sup>

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<sup>114</sup> See N.C. Dep’t of Env’t Quality, NPDES Permit No. NC0090000 (June 14, 2023), Attachment 28.

<sup>115</sup> *Id.*

<sup>116</sup> See Colonial Final Fact Sheet, *supra* note 54, at 11, 8.

<sup>117</sup> Colonial Hearing Report, *supra* note 16, at 30.

<sup>118</sup> Colonial Final Fact Sheet, *supra* note 54, at 8.

<sup>119</sup> *Id.*

<sup>120</sup> *Id.*



## V. Argument

### A. The Department must evaluate and apply technology-based limits using its best professional judgment in NPDES permits for direct industrial dischargers.

The Clean Water Act and North Carolina law leave the Department no discretion to refuse to evaluate and apply technology-based limits based on the agency’s best professional judgment in NPDES permits for direct industrial dischargers. Under the Clean Water Act, technology-based limits “represent the minimum level of control that *must* be imposed in a permit” and these limits must be established based on best professional judgment when national effluent limitation guidelines are unavailable—as they are for most pollutants and industries.<sup>121</sup> North Carolina law requires that “[a]ny state NPDES permit *shall* contain effluent limitations and standards required by 15A NCAC 02B .0400 and the Clean Water Act, which is hereby incorporated by reference including any subsequent amendments and editions.”<sup>122</sup> Elsewhere, North Carolina law mandates that “[e]ffluent limitations *shall* be developed by the staff for all existing or proposed discharges to the surface waters of the state.”<sup>123</sup> Use of the imperatives “must” and “shall” leave the Department no option: technology-based limits must be evaluated and applied whether based on best professional judgment or national effluent limitation guidelines.

EPA has outlined factors the Department must consider when developing technology-based limits using its best professional judgment.<sup>124</sup> North Carolina law has incorporated these requirements<sup>125</sup> and has further explained that technology-based limits developed using best

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<sup>121</sup> 40 C.F.R. § 125.3(a) (emphasis added).

<sup>122</sup> 15A N.C. Admin. Code 2H .0118 (emphasis added).

<sup>123</sup> *Id.* § 2B .0404 (emphasis added).

<sup>124</sup> 40 C.F.R. § 125.3(d).

<sup>125</sup> 15A N.C. Admin. Code 2H .0118; *see also id.* 2H .0143(46) (incorporating by reference 40 CFR Part 125, Subpart A).

professional judgment “shall be calculated by the staff using the projected limits of the Environmental Protection Agency, the Environmental Protection Agency development document, and other available information.”<sup>126</sup> EPA has additionally identified “numerous resources” to assist permit writers.<sup>127</sup> And the Department has relied on these factors to develop technology-based limits using best professional judgment in recent NPDES permits, including Chemours (Permit No. NC0090042) and Colonial Pipeline (Permit No. NC0090000).

Much of the information needed to evaluate technology-based limits can be provided by permittees, and North Carolina law gives the Department clear authority to demand this information during the permitting process.<sup>128</sup>

The potential application of water-quality-based limits does not excuse the Department’s obligation to impose technology-based limits. Rules promulgated by the Environmental Management Commission are clear that technology-based limits must be evaluated and imposed “even if the receiving waters affected can or are expected to be able to accept higher pollutant-load levels and still meet applicable water quality standards.”<sup>129</sup> Where a discharge “is subject to both [technology-based limits] and [water-quality-based] effluent limitations for a parameter, the more stringent limit shall apply.”<sup>130</sup> Water-quality-based limits are only necessary if technology-based limits do not ensure compliance with water quality standards.

Federal law and the rules promulgated by the Environmental Management Commission leave the Department no option: it must evaluate and apply technology-based limits based on best professional judgment in NPDES permits for direct industrial dischargers.

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<sup>126</sup> *Id.* § 2B .0406(b)(3).

<sup>127</sup> NPDES Permit Writers’ Manual, *supra* note 20, at 5-47.

<sup>128</sup> N.C. Gen. Stat. § 143-215.1(c)(1) (authorizing the Department to “require an applicant to submit plans, specifications, and other information the [Department] considers necessary to evaluate the application”).

<sup>129</sup> 15A N.C. Admin. Code 2B .0403(6).

<sup>130</sup> *Id.* § 2B .0404(a).

B. The Department inconsistently evaluates and applies technology-based limits based on best professional judgment in NPDES permits for direct industrial dischargers.

Despite the mandates of the Clean Water Act and state law, the Department inconsistently fulfills these obligations. As described above, the Department made no effort to evaluate technology-based limits in the permit for Befesa Zinc Metals (Permit No. NC0089109), despite possessing information showing that feasible technologies are available that would reduce some discharges by as much as 97%.<sup>131</sup> The permit for DAK Americas (Permit No. NC0003719) similarly includes no technology-based limit for 1,4-dioxane, despite the availability of technologies to significantly reduce the amount of 1,4-dioxane pollution in the facility's effluent—pollution that frequently causes exceedances of what the Department considers safe for drinking water supplies.

These permitting decisions stand in contrast to the Department's approach with Colonial Pipeline (Permit No. NC009000) where it followed the law and exercised its best professional judgment by reviewing "similar industrial methods" to develop and impose technology-based limits where they were "found to [be] more stringent than [water-quality-based]" limits.<sup>132</sup> The technology-based limit in the Colonial Pipeline permit resulted in important improvements to water quality and protections for the local community by reducing discharges of benzene by 86% as compared to the originally proposed water-quality-based limit.

The Department has also inconsistently imposed technology-based limits based on its best professional judgment for the same pollutant. Chemours and Camp Lejeune both operate treatment systems with granular activated carbon to remove PFAS from contaminated waste streams. But the Department has acknowledged its obligation and exercised best professional

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<sup>131</sup> See *supra* Section IV(A)(1).

<sup>132</sup> Colonial Final Fact Sheet, *supra* note 54, at 8.

judgment to establish technology-based limits for PFAS only for Chemours, not for Camp Lejeune. In addition, DAK Americas has documented PFAS pollution, and the Department did not impose technology-based limits in the facility's draft permit (nor the current, active permit). Nothing suggests that the same PFAS-reducing technology employed at Chemours and Camp Lejeune could not also be employed at DAK Americas.

Finally, the Department has inconsistently applied technology-based limits based on its best professional judgment even within the same permit. In the draft permit for DAK Americas, the Department established technology-based limits for biochemical oxygen demands and total suspended solids that “were developed based on [best professional judgment],”<sup>133</sup> but made no effort to exercise its best professional judgment to develop technology-based limits for PFAS or 1,4-dioxane.

Over time, the Department has generated a host of excuses to explain its inconsistent practice and interpretation, none of which withstand scrutiny. At times, the Department has justified its refusal to impose technology-based limits by explaining that the “facility is not subject to any [national effluent limitation guidelines],”<sup>134</sup> while other times it has acknowledged “there are no [national effluent limitation guidelines]” but still proceeded to develop technology-based limits “[b]ased on best professional judgment.”<sup>135</sup> To be clear, the lack of national effluent limitation guidelines is what triggers the requirement to develop technology-based limits using best professional judgment.

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<sup>133</sup> Draft DAK Fact Sheet, *supra* note 90, at 6. Limits for biochemical oxygen demand and total suspended solids released from DAK Americas' resins operations are subject to a national effluent limitation guideline and limits were applied to those discharges accordingly.

<sup>134</sup> *Id.*

<sup>135</sup> Colonial Final Fact Sheet, *supra* note 54, at 11.

In some permits, the Department has claimed that it “has no institutional capacity to develop [technology-based limits using best professional judgment] in according [sic] with the EPA guidance.”<sup>136</sup> But for others, the Department had capacity to develop technology-based limits using “best professional judgement” and “the procedure established in Chapter 5 of USEPA NPDES Permit Writers’ Manual.”<sup>137</sup>

Finally, the Department has refused to develop technology-based limits in some permits, citing concerns that any effort to do so would elicit “legal challenges”—presumably from industrial permittees.<sup>138</sup> But fear of a hypothetical legal challenge is no excuse for failing to implement the Clean Water Act’s requirement of technology-based limits—one of the statute’s key strategies for protecting and improving water quality.

In conclusion, the Department has inconsistently applied technology-based limits, exposing downstream waters—and the communities that rely on them—to excessive and unnecessary levels of pollution. The Department’s various excuses for this inconsistency do not negate the agency’s obligation to follow the law.

C. Application of technology-based requirements is particularly important for pollutants that lack numeric water quality standards.

Proper evaluation and application of technology-based limits using best professional judgment is particularly critical for harmful pollutants like PFAS and 1,4-dioxane that lack numeric water quality standards. Only a fraction of the pollutants found in our waters have numeric water quality standards. Although narrative, or non-numeric, water quality standards

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<sup>136</sup> See Response to SELC Befesa Comments, *supra* note 53, at 1.

<sup>137</sup> See Chemours Fact Sheet, *supra* note 111, at 13–14.

<sup>138</sup> See Response to SELC Befesa Comments, *supra* note 53, at 1.

exist to protect our waters, permit writers frequently fail to calculate water-quality-based limits without a numeric water quality standard.<sup>139</sup>

For example, after Colonial Pipeline acknowledged that 2-Chlorotoluene had been detected in its wastewater, the Department refrained from establishing a permit limit because there is no water quality “standard or criteria” that could be used to develop a water-quality-based limit.<sup>140</sup> Separately, the Department has told at least one PFAS discharger that it has no intention of imposing numeric permit limits for PFAS until numeric water quality standards are developed.<sup>141</sup> The Department’s refusal to develop limits for pollutants which lack numeric water quality standards underscores the importance of using technology-based limits—which are applied irrespective of water quality standards—for those pollutants, including (among many others) 2-Chlorotoluene, PFAS, and 1,4-dioxane.

D. The Department’s inconsistent practice arbitrarily leaves communities at risk.

The Department’s inconsistent practice has real consequences—most notably, it extends the benefit of technology-based limits unevenly and unfairly by granting protections from some direct industrial dischargers to some communities while arbitrarily denying them for others. Communities in the vicinity of and downstream of Chemours’ facility receive the benefit of technology-based limits for PFAS in Chemours’ permit while communities in the vicinity of and downstream of Camp Lejeune and DAK Americas do not benefit from similar protections in those permits. Wildlife near Colonial Pipeline’s discharge receive the benefit of technology-

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<sup>139</sup> North Carolina’s narrative toxic substances standard, 15A N.C. Admin. Code 2B .0208, applies to discharges of PFAS and 1,4-dioxane. The Department has acknowledged so in multiple settings. The Department does not consistently set limits based on this narrative standard, however, and the application of narrative standards in NPDES permits faces significant pushback from polluters.

<sup>140</sup> See Colonial Final Fact Sheet, *supra* note 54, at PDF pg. 46.

<sup>141</sup> Letter from Julie Grzyb, Deputy Director, N.C. Dep’t of Env’t Quality Div. of Water Res., to Ronald Gaskins, Lumberton Energy Holdings, LLC (Nov. 17, 2022) (explaining that the Department is in the process of developing water quality standards for PFAS and “[i]n the meantime” the agency is imposing a monitoring condition for the chemicals), Attachment 29.

based limits, while wildlife near Quartz Corps' and Befesa Zinc Metals' discharges do not. These consequences play out across North Carolina, including for Conservation Groups and their members as explained in more detail in Attachment 1.

## **VI. Proposed Rulings**

Pursuant to N.C. Gen. Stat. § 150B-4(a), Conservation Groups respectfully request that the Environmental Management Commission issue a ruling declaring that:

- a) When National Pollutant Discharge Elimination System permits are issued to direct industrial dischargers, the Department of Environmental Quality must evaluate and apply technology-based effluent limitations consistent with 40 C.F.R. § 125.3(a) for pollutants in the discharge that can be treated or otherwise removed. This evaluation must be documented in the permit fact sheet.
- b) The Department of Environmental Quality's assessment of technology-based effluent limitations must be made irrespective of the need for any water-quality-based effluent limitations.
- c) For direct industrial dischargers, where the Environmental Protection Agency has not promulgated national effluent limitation guidelines for a particular pollutant, industry, or portion of a discharger's operation, the Department of Environmental Quality must evaluate and apply technology-based effluent limitations according to the agency's "best professional judgment."

## **VII. Request for Oral Argument**

Conservation Groups respectfully request the opportunity for oral argument. The correct and consistent application of technology-based limits developed using best professional judgment is critical to protecting water quality and people in the state. This important issue warrants a hearing.

## **VIII. Conclusion**

Conservation Groups have repeatedly brought the concerns reflected in this petition to the Department's attention, but the agency has refused to change its practice of selectively (and rarely) implementing technology-based limits. Conservation Groups file this request for a

declaratory ruling to bring the Department into consistent compliance with the Clean Water Act and North Carolina law. If the Environmental Management Commission fails to issue a declaratory ruling in Conservation Groups' favor, the Department's inconsistent exercise of its best professional judgment to establish technology-based limits will be prolonged, continuing to leave communities at risk by allowing unlawful water pollution across North Carolina. These ongoing harms and the Department's inconsistent application of the law, including 15A N.C. Admin. Code 2H .0118, justify issuance of a declaratory ruling.

Respectfully submitted this the 23rd day of August 2023.



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