

July 24, 2017

By email to: michael.regan@ncdenr.gov

By FedEx to:

Secretary Michael S. Regan
Department of Environmental Quality
217 West Jones Street
Raleigh, North Carolina 27603

Re: • GenX Pollutants in the Cape Fear River Are Not Unregulated Substances
• Allowable Concentration in Cape Fear River Is Zero (or Non-Detectable)
• 100% Removal Required for Chemours Wastewater Discharge

Dear Secretary Regan:

We are environmental counsel for the Cape Fear Public Utility Authority (“CFPUA”). This letter follows up our prior requests to the Department of Environmental Quality for actions to address the GenX Pollutants problem in the Cape Fear River. CFPUA’s prior requests included the addition of certain conditions to the NPDES permit for the Chemours Fayetteville Works or outright permit denial.

This letter provides additional regulatory analysis of the State of North Carolina’s authority and duty to include in the Chemours NPDES permit the following (assuming the permit will not be denied):

- A water quality-based effluent limitation that prohibits any discharge of GenX Pollutants which are subject to a North Carolina water quality standard which restricts “deleterious substances” and “other wastes”; and
- A technology-based effluent limitation that requires removal of 100% of GenX Pollutants from the Chemours wastewater discharge because 100% removal has been demonstrated to be the practicable waste treatment and disposal alternative with the least adverse impact on the environment.

1. GenX Pollutants

The following pollutants are identified collectively as “GenX Pollutants”:

- (1) chemicals collectively identified by DuPont Company and The Chemours Company FC, LLC as “GenX”;
- (2) chemicals that are structurally or functionally or otherwise similar to GenX that result from the manufacture, use, processing, treatment, or disposal of GenX;
- (3) perfluoroalkyl ether carboxylic acids (PFECAs); and
- (4) chemicals that are structurally or functionally or otherwise similar to PFECAs that result from manufacture, use, processing, treatment, or disposal of PFECAs.

We understand that Chemours has applied for reissuance of the NPDES permit for a discharge of pollutants to the Cape Fear River from its Chemours Company – Fayetteville Works near Fayetteville, North Carolina, NPDES Permit No. NC0003573 (the “Chemours Permit”) and that the application is still under consideration by DEQ. GenX Pollutants have been and apparently continue to be among the pollutants that are discharged into the Cape Fear River from the Chemours Fayetteville Works at Outfall 002 (and perhaps elsewhere at the Fayetteville Works).

As discussed in more detail below, the Chemours Permit (if reissued or reopened) must include two kinds of effluent limitations that restrict or prohibit the discharge of GenX Pollutants from the Fayetteville Works.

2. Water Quality Standard Prohibits GenX Pollutants

GenX Pollutants, both collectively and individually, are substances that are regulated pursuant to the following water quality standard:

Oils, deleterious substances, colored, or other wastes: *only* such amounts as *shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses.*

15A NCAC 2B .0211(12).

In this case, GenX Pollutants have been and apparently are being disposed of in the Cape Fear River and are therefore waste. GenX Pollutants are subject to regulation under 15A NCAC 2B .0211(12) as “other wastes.”

“Deleterious substance” is not defined by North Carolina statutes or rules. “Deleterious” is an adjective that means “injurious to health” or “harmful; injurious.” <http://www.dictionary.com/browse/deleterious?s=t> (site viewed July 20, 2017). Published records and reports indicate that GenX is a substance that is injurious to health and harmful.

For example, on January 26, 2009, DuPont and EPA entered into a TSCA Consent Order for premanufacture notices for GenX (P-08-508 and P-08-509) that stated that “EPA has concerns that [GenX] will persist in the environment, could bioaccumulate, and be toxic (“PBT”) to people, wild mammals, and birds,” and that, based on available data, “EPA has human health concerns” for GenX. TSCA Consent Order at vii. Due to the likelihood that GenX would be used as a major substitute for C8, EPA determined that “more information is needed on the toxicity and pharmacokinetics” of GenX, and noted the “high concern for possible environmental effects over the long-term.” TSCA Consent Order at xi–xii. Accordingly, EPA concluded that “uncontrolled manufacture, import, processing, distribution in commerce, use, and disposal of [GenX] may present an unreasonable risk of injury to human health and the environment.” TSCA Consent Order at xv. Due to the stated concerns of EPA, the Consent Order authorized the manufacture of GenX but required that DuPont “recover and capture (destroy) or recycle [GenX] at an overall efficiency of 99% from all effluent process streams and the air emissions (point source and fugitive).” TSCA Consent Order at 36.

More recently and with more information from actual experience with environmental releases of GenX, the National Institute for Public Health and the Environment, The Netherlands, stated the following:

Since 2012, Chemours [at a plant in Europe] is using the GenX technology to produce plastics (fluoropolymers). In this technology, the substances FRD-902, FRD-903, and E1 replace the controversial PFOA substances.

Like PFOA, FRD-903, FRD-902, and E1 are perfluorinated hydrocarbons and poorly degradable in the environment. Also, FRD-902 and FRD-903 are causing similar harmful effects as PFOA (such as carcinogenic [effects] and effects on the liver).

Evaluation of substances used in the GenX technology by Chemours, Dordrecht (2016) at page 3 of 92.

Thus, GenX is a deleterious substance and is therefore subject to regulation by DEQ pursuant to the North Carolina water quality standard, 15A NCAC 2B .0211(12).

The same regulatory analysis applicable to GenX (discussed above) also applies to GenX Pollutants, which consist of GenX and substances that are similar to GenX. GenX Pollutants in the Cape Fear River have been disposed of and are “other wastes” subject to regulation under 15A NCAC 2B .0211(12). Moreover, GenX Pollutants should all be expected to have effects on human health and the environment like those of GenX, and should be subject to regulation under 15A NCAC 2B .0211(12) as deleterious substances.

The water quality standard allows deleterious substances and other wastes to be present in the Cape Fear River only in such amounts that are shown to *not* cause any of three kinds of problems. An allowable amount is one that:

- (1) *shall not* render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife (the “Shall Not Injure Amount” or “SNIA”);
- (2) *shall not* adversely affect the palatability of fish or aesthetic quality; *and*
- (3) *shall not* impair the waters for any designated uses.

Under 15A NCAC 2B .0211(12) it is not enough that an amount of a deleterious substance or other waste *might not* or even *probably won't* have a prohibited effect. The plain language of the water quality standard only allows an amount of a deleterious substance or other waste that *shall not have any of the three prohibited effects*.

The allowable amounts of GenX Pollutants in a surface water body have not yet been determined. A *portion* of a SNIA determination may have been completed by the NCDHHS when it published a health goal for GenX, but the health goal has not been identified by DEQ as being applicable to or satisfying even part of the water quality standard 15A NCAC 2B .0211(12). Further, the health goal apparently does not address non-cancer effects or effects on secondary recreation or aquatic life or wildlife for an SNIA. In addition, we are aware of no findings that support determinations of no adverse effect on the palatability of fish or aesthetic quality or of no impairment of designated uses.¹ Thus, even if DEQ considers the NCDHHS health goal to be applicable, the required analysis and findings to identify an

¹ The designated uses include drinking water supply, which should be considered impaired at detectable concentrations of GenX Pollutants. We note that the “no impairment of use” standard is stricter than the “no preclusion of use” standard at 15A NCAC 2B .0216(2).

allowable amount of GenX Pollutants have not been completed. Therefore, any detectable amount of GenX Pollutants in the Cape Fear River violates 15A NCAC 2B .0211(12).

3. Permit Conditions Must Prohibit GenX Pollutants and Require 100% Removal of GenX Pollutants

As discussed below, DEQ has a duty to include the following conditions in the Chemours NPDES Permit (assuming it will be reissued or reopened):

- A water quality based effluent limitation (“WQBEL”) that prohibits the discharge of GenX Pollutants until acceptable concentrations of these pollutants are determined in compliance with 15A NCAC 2B .0211(12).
- A technology based effluent limitation (“TBEL”) that requires 100% removal of GenX Pollutants from wastewater.

DEQ has a nondiscretionary duty to include conditions in the Chemours Permit that reasonably ensure compliance with applicable water quality standards and regulations. 15A NCAC 2H .0112(c). If such conditions are not or cannot be included, the Chemours Permit cannot lawfully be reissued: “No permit may be issued when the imposition of conditions cannot reasonably ensure compliance with applicable water quality standards and regulations....” 15A NCAC 2H .0112(c).

In addition, the burden is not on DEQ to obtain sufficient information to formulate the conditions. It is Chemours’ duty to provide the information: “The permit applicant has the burden of providing sufficient evidence to reasonably ensure that the proposed system will comply with all applicable water quality standards and requirements.” 15A NCAC 2H .0112(c). If Chemours, for any reason, does not provide sufficient evidence to reasonably ensure that the proposed system will comply with all applicable water quality standards and requirements, it is DEQ’s non-discretionary duty to deny Chemours’ application for permit renewal or at least prohibit discharges from any portion of the Chemours Fayetteville Works for which compliance cannot reasonably be ensured.

3.1. Zero Discharge WQBEL

Water quality based effluent limitations are included in NPDES permits whenever necessary to reasonably ensure that a water quality standard will not be violated. Until Chemours provides sufficient evidence to reasonably ensure that the inclusion of GenX Pollutants in its discharge to the Cape Fear River complies with water quality standard 15A NCAC 2B .0211(12), the Chemours Permit (if reissued) must prohibit any detectable amount of GenX Pollutants in the discharge. 15A NCAC 2H .0112(c).

3.2. 100% Removal TBEL

DEQ has a duty to include in the Chemours Permit a technology based effluent limitation that requires 100% removal of GenX Pollutants from its wastewater (assuming the permit is reissued). We note that DEQ's authority includes, but is not limited to, the following:

For industrial categories or parts of categories for which effluent limits and guidelines have not been published and adopted, effluent limitations for existing industrial waste discharges, or new industrial waste discharges 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* in order to achieve *the purposes of Article 21*. Such limits developed by the staff shall be subject to approval by the Director.

15A NCAC 2B .0406(e) (italics added). The purposes of Article 21 include the following:

Standards of water and air purity shall be designed to protect human health ... to prevent damage to public and private property ... to provide a permanent foundation for *healthy* industrial development and to secure for the people of North Carolina, now and in the future, the beneficial uses of these great natural resources.

N.C. Gen. Stat. § 143-211(c).

Most importantly, 100% removal is *mandated* by statute:

All permit decisions shall require that the practicable waste treatment and disposal alternative with the least adverse impact on the environment be utilized.

N.C. Gen. Stat. § 143-215.1(b)(2).

Adverse environmental impact of GenX Pollutants is now well-documented. The practicability of 99% removal of GenX was established early on by EPA's TSCA Consent Order, discussed above. More recently, Chemours established the practicability of 100% removal of GenX when it announced that it would implement 100% removal at the Fayetteville Works. Because the GenX Pollutants are so similar to GenX, 100% removal of those pollutants must also be determined to be practicable.

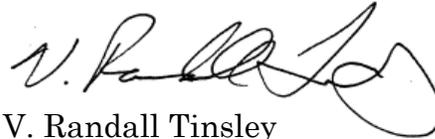
Conclusion

On behalf of CFPUA, if the Chemours Permit will be reissued, we request the Department of Environmental Quality exercise its authority to prohibit the discharge of GenX Pollutants into the Cape Fear River, one of the most important drinking water sources in North Carolina. If the Chemours Permit will not be reissued soon with the requested conditions for GenX Pollutants, we request that DEQ immediately re-open the current permit and add the requested permit conditions.

Sincerely,

A handwritten signature in black ink, appearing to read "George W. House". The signature is fluid and cursive, with a large loop at the beginning.

George W. House

A handwritten signature in black ink, appearing to read "V. Randall Tinsley". The signature is cursive and somewhat stylized.

V. Randall Tinsley

A handwritten signature in black ink, appearing to read "Joseph A. Ponzi". The signature is cursive and includes the initials "A. P.".

Joseph A. Ponzi