Draft for Public Review

STATE OF NORTH CAROLINA	IN THE GENERAL COURT OF JUSTICE SUPERIOR COURT DIVISION
COUNTY OF BLADEN	17 CVS 580

STATE OF NORTH CAROLINA, *ex rel.*, MICHAEL S. REGAN, SECRETARY, NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, Plaintiff, v. THE CHEMOURS COMPANY FC, LLC, Defendant.	)	**DRAFT PROPOSED ORDER FOR PRELIMINARY INJUNCTIVE RELIEF**

THIS CAUSE was heard by the Honorable Douglas B. Sasser, Senior Resident Superior Court Judge, presiding by designation pursuant to Rule 2.1 of the General Rules of Practice, upon the application of Plaintiff, the State of North Carolina, by and through Michael S. Regan, Secretary of the North Carolina Department of Environmental Quality ("DEQ"), for entry of a Preliminary Injunction pursuant to N.C. Gen. Stat. § 143-215.6C to prevent and abate violations of the North Carolina's water quality laws by Defendant The Chemours Company FC, LLC ("Chemours").

After reviewing the submissions of the Parties and considering the arguments of counsel, this Court finds and concludes the following:

JURISDICTION AND VENUE

1. Plaintiff is the sovereign State of North Carolina. This action was brought on the relation of Michael S. Regan, Secretary of DEQ, the State agency established pursuant to N.C. Gen. Stat. § 143B-279.1 *et seq.*, and vested with the statutory authority to enforce the State's

environmental protection laws, including laws enacted to protect the water and air quality of the State. The Division of Water Resources ("DWR"), the Division of Waste Management ("DWM"), and the Division of Air Quality ("DAQ") are divisions within DEQ and all actions taken by these Divisions are actions of the Plaintiff.

2. Defendant Chemours is a Delaware limited liability company registered and doing business in North Carolina. Chemours owns and operates its Fayetteville Works facility located at 22828 NC Highway 87 W, Fayetteville, Bladen County, North Carolina, which is the subject of this action.

3. This Court has jurisdiction over this action for injunctive relief for existing or threatened violations of various laws and rules governing the protection of water quality pursuant to N.C. Gen. Stat. § 143-215.6C and air quality pursuant to N.C. Gen. Stat. § 143-215.114C. Furthermore, jurisdiction for injunctive relief sought to compel enforcement of a statute or regulation rests in the Superior Court pursuant to N.C. Gen. Stat. § 7A-245(a)(2) and N.C. Gen. Stat. § 1-493.

4. Bladen County, North Carolina, is a proper venue for this action because a significant portion of the alleged violations or threatened violations that are the subject of this action for injunctive relief have occurred, are occurring, and may continue to occur at the Fayetteville Works facility. N.C. Gen. Stat. § 143-215.6C; N.C. Gen. Stat. § 143-215.114C.

FINDINGS OF FACT

5. The Facility. Chemours owns a chemical manufacturing facility called the Fayetteville Works facility ("Facility") in Bladen County, North Carolina. Chemours has owned and operated the Facility since July of 2015. Prior to that time, the Facility was owned by

Chemours' predecessor, E. I. DuPont de Nemours & Company, Inc. ("DuPont"). Chemours manufactures, among other products, Chemours Nafion® Membrane and Polymer Dispersions, HFPO Monomers and Vinyl Ether Monomers, as well as a Polymer Processing Aid known as "GenX."

6. "GenX" is the trade name for the chemical C3 Dimer Acid (also known as HFPO Dimer Acid), which has a Chemical Abstracts Registry or "CAS" number of 13252-13-6.[1] C3 Dimer Acid Fluoride (also known as HFPO Dimer Acid Fluoride), CAS No. 2062-98-8, and C3 Dimer Acid Ammonium Salt (also known as HFPO Dimer Acid Ammonium Salt), CAS No. 62037-80-3, convert to GenX in the presence of water. GenX, C3 Dimer Acid Fluoride, and C3 Dimer Acid Ammonium Salt are collectively referred to herein as "GenX Compounds." GenX Compounds fall within a family of chemicals known as per- and polyfluoroalkyl substances or "PFAS."

7. GenX was developed by DuPont as a substitute for Perfluorooctanoic acid or "PFOA," which DuPont ceased manufacturing pursuant to United States Environmental Protection Agency's ("EPA's") "PFOA Stewardship Program." EPA launched the PFOA Stewardship Program in 2006 because of concerns about the impact of PFOA and other long-chain PFAS on human health and the environment, including concerns about their persistence, presence in the environment and in the blood of the general U.S. population, long half-life in people, and developmental and other adverse effects in laboratory animals. The goal of the program was for companies to work towards eliminating PFOA from emissions and product content by 2015.

[1] CAS numbers are universally used to provide a unique identifier for chemical substances.

8. On January 28, 2009, EPA and DuPont entered into a Consent Order governing the manufacture of GenX pursuant to the Toxic Substances Control Act ("TSCA"). That Consent Order states that "EPA has concerns that [GenX] will persist in the environment, could bioaccumulate, and be toxic . . . to people, wild animals, and birds." The Consent Order also stated that EPA had "human health concerns" regarding GenX and recognized that "uncontrolled . . . disposal of [GenX] may present an unreasonable risk of injury to human health and the environment." The Consent Order required DuPont to "recover and capture (destroy) or recycle [GenX] at an overall efficiency of 99% from all the effluent process streams and the air emissions (point source and fugitive)."

9. While there are no federal environmental regulatory standards for GenX, the North Carolina Department of Health and Human Services ("DHHS") has established a provisional health goal for exposure to GenX in drinking water of 140 nanograms per liter ("ng/L," also expressed as parts per trillion or "ppt").

10. Wastewater Discharge Permit. The Facility discharges wastewater into the Cape Fear River pursuant to National Pollutant Discharge Elimination System Permit No. NC003573 ("NPDES Permit"). The most recent version of the NPDES Permit was issued by DWR on October 28, 2015, and partially suspended on November 30, 2017. The NPDES Permit authorizes the discharge of wastewater from the Facility through two outfalls: Outfall 001 and Outfall 002. Outfall 001 is an internal outfall from the Facility's wastewater treatment plant. Outfall 002 discharges the Facility's treated wastewater as well as non-contact cooling water and stormwater into the Cape Fear River. The partial suspension of the NPDES permit on November 30, 2017 suspended Chemours' authorization to discharge process wastewater from its

manufacturing areas.

11. The segment of the Cape Fear River into which the Facility's wastewater is discharged is classified by regulation as a WS-IV water—waters protected as a public source of drinking water—and is located upstream of various drinking water intakes serving utilities such as the Lower Cape Fear Water and Sewer Authority, Cape Fear Public Utility Authority, and Brunswick County.

12. Air Quality Permit. The Facility is also subject to Air Quality Permit No. 03735T43 ("Air Permit"), issued by DAQ. The Air Permit authorizes the operation of various emissions sources and pollution control devices at the Facility subject to certain conditions, including pollution control, monitoring, and reporting requirements.

13. Emissions from several manufacturing processes at the Facility are controlled by scrubbers called the "Division Waste Gas Scrubber" and the "Vinyl Ethers South Scrubber," and vented to the atmosphere through the "Division Stack" and "Vinyl Ethers South Stack," respectively. The processes controlled by these scrubbers include the Vinyl Ethers North Process, the RSU Process, the FPS Liquid Waste Stabilization Process, the MMF Process, the Hexafluoropropylene oxide ("HFPO") Process, and the Vinyl Ethers South Process. Emissions from the Polymer Processing Aid ("PPA") Process are controlled by a scrubber called the "PPA Scrubber," and vented through the PPA Stack. PPA Process emissions are also controlled by the PPA Carbon Adsorber Unit, which was installed on or around May 25, 2018. The Air Permit also applies to other emissions sources at various locations throughout the Facility.

14. In addition to process emissions vented through stacks, the Facility releases fugitive emissions into the atmosphere as a result of outdoor and indoor equipment leaks. Chemours is

required to minimize its fugitive emissions through implementation of a Leak Detection and Repair ("LDAR") Program. Indoor fugitive emissions from the Vinyl Ethers North Process are also controlled by the Vinyl Ethers North Carbon Adsorber Unit, which was installed on or around May 25, 2018. Indoor fugitive emissions from the PPA Process are controlled by the PPA Carbon Adsorber Unit.

15. DEQ's Investigation and Enforcement Action. Since June of 2017, DEQ, in consultation with DHHS and EPA, has been leading a State investigation into the presence of GenX and other PFAS in surface waters, groundwater, and public and private drinking water in the Cape Fear region.

16. Wastewater from Chemours' manufacturing processes has contained GenX Compounds and other PFAS since the 1980s. While wastewater from Chemours' PPA Process (which produces GenX as a commercial product) has been historically captured for offsite disposal, GenX Compounds and other PFAS have also been generated at the Facility in connection with other manufacturing processes and discharged to the wastewater treatment plant. GenX and other PFAS have also been captured in scrubber waste water, which was also discharged to the wastewater treatment plant. Because the Facility's wastewater treatment plant is ineffective at removing PFAS, these compounds have been continuously discharged into the Cape Fear River for decades by Chemours and DuPont.

17. On June 19, 2017, a sample at Chemours' Outfall 002 showed concentrations of GenX at 39,000 ng/L.

18. On June 19, 2017, DEQ also began collecting surface water samples from sites along the Cape Fear River. Analysis of samples of finished water from public utilities showed

concentrations of GenX as high as 1,100 ng/L.

19. DuPont and Chemours failed to timely disclose to DWR in the NPDES permitting process any discharge of GenX Compounds or other PFAS into the Cape Fear River. DuPont and Chemours also failed to timely disclose to DEQ that C3 Dimer Acid Fluoride reacts with water to generate GenX and that any discharge or emissions of C3 Dimer Acid Fluoride is likely to result in the release of GenX into the environment.

20. None of the DuPont or Chemours NPDES permit applications referenced "GenX," "GenX Compounds," "C3 Dimer Acid," "C3 Dimer Acid Fluoride," "C3 Dimer Acid Ammonium Salt" or any chemical name, formula, or CAS number that would identify any GenX or other PFAS in the Facility's discharge.

21. In fact, information provided by DuPont and Chemours led DWR staff to reasonably believe that GenX was not being discharged into the Cape Fear. On August 26, 2010, representatives of DuPont, including environmental manager Michael Johnson, met with DEQ staff regarding DuPont's anticipated use of GenX technology at the Fayetteville Works as a replacement for PFOA. The information DuPont provided indicated that the GenX would be produced in a closed-loop system that would not result in the discharge of GenX into the Cape Fear River. DuPont and Chemours did not notify DWR of an actual ongoing discharge of GenX at this meeting or in any information subsequently provided to DWR prior to 2017.

22. Chemours' discharge of GenX Compounds and other PFAS in its effluent was not disclosed and was not authorized by Chemours' NPDES permit.

23. On September 7, 2017, DEQ filed a Complaint, Motion for Temporary Restraining Order, and Motion for Preliminary Injunctive relief in this Court, seeking various forms of

injunctive relief relating to the PFAS contamination in surface water and groundwater.

24. On September 8, 2017, the Court entered a partial consent order requiring Chemours to take immediate measures to capture process wastewater containing GenX compounds as well as two additional PFAS called PFESA Byproduct 1, CAS No. 66796-30-3, and PFESA Byproduct 2, CAS No. 749836-20-2, for offsite disposal.

25. Despite Chemours' diversion of additional process wastewater for offsite disposal, DEQ continued to detect elevated levels of GenX at the Facility's outfall and in the Cape Fear River after issuance of the partial consent order. In addition, approximately one month after entry of the partial consent order, Chemours failed to report a spill of wastewater containing PFAS, which resulted in elevated levels of PFAS in the Cape Fear River and in downstream drinking water intakes. On November 13, 2017 DEQ issued Chemours an NOV for its violation of NPDES reporting requirements and 15A N.C.A.C. 2B .0216(3)(a).

26. On November 16, 2017, DWR sent a letter to Chemours partially suspending the NPDES Permit effective November 30, 2017. As a result of this action, Chemours is currently prohibited from discharging any process wastewater from its manufacturing areas.

27. DEQ's investigation and enforcement actions have also addressed GenX and PFAS contamination in groundwater. In August 2017, samples gathered from fourteen groundwater monitoring wells at the Facility showed GenX in thirteen of those wells at levels ranging from 519 ng/L to 61,300 ng/L. More recent data shows even higher concentrations of GenX in onsite groundwater. For example, Chemours' January 31, 2018 Additional Onsite Investigation Report showed GenX in onsite groundwater at concentrations as high as 640,000 ng/L. Five wells located adjacent to the Cape Fear River have GenX in concentrations greater than 11,800 ng/L. The report

also showed that other PFAS were detected in onsite groundwater. For example, PFMOAA, CAS No. 674-13-5, was detected in concentrations of more than 8 million ng/L; "PFESA Byproduct 1," CAS No. 29311-67-9 was detected in concentrations of more than 260,000 ng/L; and "PFESA Byproduct 2," CAS No. 749836-20-2 was detected in concentrations of more than 76,000 ng/L in groundwater beneath the Facility.

28. A primary source of this contamination at the site has been a leaking terracotta pipe that, until November of 2017, was used to convey process wastewater from the Facility's manufacturing areas to its wastewater treatment plant. In addition Chemours has represented that an unlined cooling water channel known as the "Nafion Ditch" is also a source of groundwater contamination. Chemours has discharged "neutralized waste nitric acid" into the Nafion Ditch since 1977. In the summer of 2017 Chemours tested this process waste stream and detected PFESA Byproduct 2, CAS # 749836-20-2. Water conveyed by the Nafion Ditch bypasses the Facility's wastewater treatment plant and is discharged directly into the Cape Fear River.

29. Concentrations of PFAS beneath the Facility are contributing to contamination of groundwater (including offsite groundwater) and adjacent surface water bodies, including Willis Creek, the Georgia Branch, and the Cape Fear River. According to Chemours' analysis, flow of onsite groundwater directly to the Cape Fear River is the most significant current source of contaminant loading in the River.

30. In addition to evaluating onsite groundwater contamination, from September 2017 through the present, DWM has overseen sampling of groundwater in offsite residential drinking water wells. To date, approximately 1,000 offsite wells have been tested. Approximately 225 wells have concentrations of GenX above the DHHS provisional health goal of 140 ng/L and

approximately 538 wells have detectable concentrations of GenX at a level lower than 140 ng/L. Concentrations above 140 ng/L were detected in private drinking water wells out to approximately four (4) miles from the Facility.

31. On May 24, 2018, DWM sent Chemours a letter directing Chemours to develop a plan to connect residents whose well water has concentrations of GenX above the health goal set by DHHS to public water supplies.

32. On December 15, 2017, DWM ordered Chemours to "commence immediate Interim Measures to terminate and control the sources of contamination, and mitigate any hazards resulting from exposure to the pollutants." When DWM found Chemours' response to this directive inadequate, DWM issued a "Notice of Violation – Immediate Action Required," on February 12, 2018 directing Chemours to "initiate immediate source control measures to control primary and secondary sources of PFAS contamination" or risk further enforcement action.

33. DWM has issued Notices of Violation pursuant to 15A N.C.A.C. 2L .0202 against Chemours for its unlawful contamination of groundwater with GenX Compounds and other PFAS, including: PFBS, CAS #375-73-5; PFDA, CAS #335-76-2; PFDoA, CAS #307-55-1; PFHpA, CAS #375-85-9; PFHxS, CAS #355-46-4; PFHxA, CAS #307-24-4; PFNA, CAS #375-95-1; PFTriA, CAS #72629-94-8; PFUnA, CAS #2058-94-8; PFPeA, CAS #2706-90-3; PFMOAA, CAS # 674-13-5; PFECA_F, CAS# 377-73-1; PFO2HxA, CAS # 39492-88-1; PFO3OA, CAS# 39492-89-2; PFO4DA, CAS# 39492-90-5; PFO5DA, CAS# 39492-91-6; PFESA Byproduct 1, CAS# 66796-30-3; and PFESA Byproduct 2, CAS # 749836-20-2.

34. In addition to sources of groundwater contamination such as leaks, spills, and infiltration of wastewater conveyances into groundwater, Chemours' emissions of GenX

Compounds and other PFAS into the atmosphere represent a significant source of contamination in private drinking water wells.

35. On September 20, 2017, DAQ sent a letter to Chemours requesting information regarding Chemours' emissions of GenX Compounds and other PFAS. Chemours submitted a revised assessment of those emissions on October 20, 2017, raising its estimates of emissions GenX Compounds from approximately 66.6 pounds to approximately 594 pounds.

36. Those revised estimates and subsequent stack testing showed that Chemours' air emissions of GenX Compounds far exceeded both the initially reported and revised emissions report, with the current estimate of 2016 emissions at approximately 2,241 pounds. This figure is approximately 33.6 times higher than the quantity of emissions of GenX Compounds reported to DAQ in June 2017 and approximately 3.7 times higher than in the quantity of emissions of GenX Compounds reported in October 2017. Current data, as reported by Chemours, indicates that Chemours emitted approximately 2,199 pounds of GenX Compounds in 2017 (referred to herein as "2017 Total Reported Emissions").

37. Beginning in January 2018, DAQ conducted rainwater sampling and air deposition modeling to determine the fate of GenX Compounds emissions from the Facility in the environment. DAQ's analysis included measurements of 810 ng/L of GenX in rainwater five miles to the northeast of the facility and 40 and 60 ng/L of GenX in rainwater seven miles to the northeast of the Facility. DAQ's analysis of Chemours' emissions, rainwater data, groundwater data, and meteorological data established that atmospheric deposition of Chemours' emissions is a primary source of groundwater contamination.

38. On April 6, 2018, DAQ issued a letter notifying Chemours of DAQ's intent to

modify Chemours' air permit to prohibit the emission of GenX Compounds if Chemours failed to demonstrate that it can operate in a manner that will not result in its emissions causing or contributing to unlawful groundwater contamination. On April 10, 2018, DEQ filed an Amended Complaint, in part, to supplement its September 8, 2017 Complaint with new allegations and evidence relating to Chemours emissions of GenX Compounds and other PFAS into the atmosphere.

39. On April 27, 2018, DEQ received Chemours' response to its April 6, 2018 letter. On May 11, 2018, after reviewing this response and the accompanying attachments, DEQ sent Chemours a request for clarification and additional information. On May 18, 2018, Chemours responded to that letter.

40. DEQ's analysis of Chemours' submissions and all available evidence indicates that significant reductions of Chemours' emissions will be necessary in order to prevent Chemours from causing or contributing to violations of North Carolina's groundwater rules.

41. DEQ's analysis further indicates that the Chemours' commitment in its April 27, 2018 response to reduce GenX emissions by 72% by October 2018 and to reduce emissions further by April 30, 2020 is inadequate to address Chemours' ongoing contamination of groundwater.

42. DEQ has concluded that, at a minimum, a reduction in facility-wide emissions of GenX Compounds by at least 99% from 2017 Total Reported Emissions is necessary to prevent and abate Chemours' ongoing contamination of groundwater with GenX Compounds.

43. Chemours' submissions to DEQ demonstrate that the technology necessary to achieve these emissions reduction will also control process emissions of other PFAS at a control efficiency of 99.99%.

44. While the technology necessary to achieve these goals is being implemented, DEQ has concluded that accelerated measures to reduce facility-wide emissions of GenX Compounds is necessary, and that, by August 31, 2018, Chemours must reduce emissions of these compounds facility-wide by at least 97% from 2017 Total Reported Emissions.

CONCLUSIONS OF LAW

45. To the extent that the findings of fact contain conclusions of law, or that the conclusions of law may be considered or include findings of fact, they should be so considered without regard to their given labels.

46. The Clean Water Act and North Carolina's NPDES Program. The Federal Clean Water Act prohibits any person from discharging pollutants from a point source into surface waters without first obtaining an appropriate permit. 33 U.S.C. § 1311. Individual states are authorized to assume responsibility for implementation of an NPDES Program upon statutory authorization and application to EPA. 33 U.S.C. § 1342(b). EPA approved North Carolina's NPDES program in 1975. North Carolina has authority to take action to enforce violations of 33 U.S.C. § 1311 of the Clean Water Act, which prohibits the unpermitted discharge of pollutants into surface waters. MOA § VI.A.2.a; N.C. Gen. Stat. § 143-215.1.

47. North Carolina's primary statute for implementing its NPDES permitting program is N.C. Gen. Stat. § 143-215.1, which requires a permit before any person can "make any outlet into waters of the state," or "[c]ause or permit any waste, directly or indirectly, to be discharged to or in any manner intermixed with the waters of the State in violation of the water quality standards . . unless allowed as a condition of any permit."

48. Under North Carolina rules implementing the State's NPDES permitting process,

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." 15A N.C.A.C. 2H .0112(c). These rules further provide "no permit may be issued when the imposition of conditions cannot reasonably ensure compliance with applicable water quality standards." *Id.*

49. Part of the permit applicant's burden in this regard is to disclose all relevant information, such as the presence of known constituents in a discharge that pose a potential risk to human health. The permit applicant is required to disclose "all known toxic components that can be reasonably expected to be in the discharge, including *but not limited to* those contained in a priority pollutant analysis." 15A N.C.A.C. 2H .0105(j) (emphasis added).

50. While the North Carolina Administrative Code does not contain a definition of "toxic component," North Carolina water quality regulations define "toxic substance" to include:

> any substance or combination of substances (including disease-causing agents), which after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, has the potential to cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions or suppression in reproduction or growth) or physical deformities in such organisms or their offspring.

15A N.C.A.C. 2B .0202(64). These disclosure obligations do not cease upon issuance of a permit. Rather, they are ongoing. Pursuant to NPDES Standard Permit Condition II.E.8, "Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application . . . or in any report to the Director, it shall promptly submit such facts or information." *See* 40 C.F.R. 122.41(1)(8).

51. While compliance with the express terms of an NPDES permit generally "shields" the permittee from liability for violations of 33 U.S.C. § 1311, the permit does not shield the

permittee from liability where the pollutant being discharged was not within the "reasonable contemplation" of the permitting agency when it issued the permit due to nondisclosure by the permittee. 33 U.S.C. § 1342(k); *see also Piney Run Pres. Ass'n v. Cty. Comm'rs of Carroll Cty., MD*, 268 F.3d 255, 265 (4th Cir. 2001). Indeed, EPA's guidance regarding the permit shield provides that a permit only "provides authorization and therefore a shield for . . . pollutants resulting from facility processes, waste streams and operations that have been *clearly identified* in the permit application process when discharged from specified outfalls." *EPA, Revised Policy Statement on Scope of Discharge Authorization and Shield Associated with NPDES Permits*, available at https://www3.epa.gov/npdes/pubs/owm0131.pdf (emphasis added).

52. North Carolina's Groundwater Standards. In addition to regulating surface waters, the Environmental Management Commission ("EMC") has promulgated rules in 15A N.C.A.C. Subchapter 2L (the "groundwater rules") that "establish a series of classifications and water quality standards applicable to the groundwaters of the State." 15A N.C.A.C. 2L .0101(a). "Groundwaters" are defined in the groundwater rules as "those waters occurring in the subsurface under saturated conditions." 15A N.C.A.C. 2L .0102(1). The groundwater rules "are applicable to all activities or actions, intentional or accidental, which contribute to the degradation of groundwater quality, regardless of any permit issued by a governmental agency authorizing such action or activity," except in certain situations not applicable here. 15A N.C.A.C. 2L .0101(b).

53. The groundwater rules "are intended to maintain and preserve the quality of the groundwaters, prevent and abate pollution and contamination of the waters of the state, protect public health, and permit management of the groundwaters for their best usage by the citizens of North Carolina." 15A N.C.A.C. 2L .0103(a). The policy section of the groundwater rules provides

further that "[i]t is the policy of the Commission that the best usage of the groundwaters of the state is as a source of drinking water." 15A N.C.A.C. 2L .0103(a). The policy section of the groundwater rules provides further that "[n]o person shall conduct or cause to be conducted, any activity which causes the concentration of any substance to exceed that specified in Rule .0202 of this Subchapter, except as authorized by the rules of this Subchapter." 15A N.C.A.C. 2L .0103(d).

54. With certain exceptions not relevant here, "substances which are not naturally occurring and for which no standard is specified shall not be permitted in concentrations at or above the practical quantitation limit" in groundwaters. 15A N.C.A.C. 2L .0202(c). The "practical quantitation limit" or "PQL" is defined as "the lowest concentration of a given material that can be reliably achieved among laboratories within specified limits of precision and accuracy by a given analytical method during routine laboratory analysis." 15A N.C.A.C. 2L .0102(15). "Any person conducting or controlling an activity that results in the discharge of a waste or hazardous substance or oil to the groundwaters of the State, or in proximity thereto, shall take action upon discovery to terminate and control the discharge, mitigate any hazards resulting from exposure to the pollutants and notify the Department." 15A N.C.A.C. 2L .0106(b).

55. Pursuant to the groundwater rules, "[i]nitial response required to be conducted prior to or concurrent with the assessment required" as set forth above "shall include" among other things,

> (2) abatement, containment, or control of the migration of contaminants; (3) removal, treatment, or control of any primary pollution source such as buried waste, waste stockpiles, or surficial accumulations of free products; (4) removal, treatment, or control of secondary pollution sources that would be potential continuing sources of pollutants to the groundwaters, such as contaminated soils and non-aqueous phase liquids.

15A N.C.A.C. 2L .0106(f).

56. The Clean Air Act and North Carolina's Air Quality Laws. Title V of the Federal Clean Air Act, 42 U.S.C. § 7661 *et seq*. requires major sources of air pollutants to obtain and operate in compliance with an operating permit. A Title V operating permit generally incorporates all applicable state and federal air quality requirements into a single permit, including emissions standards, monitoring requirements, record keeping requirements, and reporting requirements.

57. North Carolina has received approval from EPA to operate a Title V program and the General Assembly has delegated authority to the EMC to promulgate rules for that purpose. N.C. Gen. Stat. §§ 143-215.107(a)(10), 143-215.3(c); 40 CFR Part 70, Appendix A ("Approval Status of State and Local Operating Permit Programs").

58. The purposes of North Carolina's air quality program are set forth in N.C. Gen. Stat. § 143-215.105, which incorporates by reference the policy goals set forth in Article 21 of Chapter 143 of the North Carolina General Statutes ("Water and Air Resources"). As described in Article 21, the General Assembly intended for North Carolina's water quality and air quality programs to provide an integrated scheme for ensuring protection of public health and natural resources. The statute provides that "water and air resources of the State belong to the people, [and] the General Assembly affirms the State's ultimate responsibility for the preservation and development of these resources in the best interest of all its citizens and declares the prudent utilization of these resources to be essential to the general welfare." N.C. Gen. Stat. § 143-211(a). The statute further requires that "[s]tandards of water and air purity shall," among other things, "be designed to protect human health, to prevent injury to plant and animal life, to prevent damage to public and private property." N.C. Gen. Stat. § 143-211(c). The EMC has delegated authority

to the Director of the DAQ to terminate, modify or revoke any Title V permit if necessary to carry out these purposes. 15A N.C.A.C. 2Q .0519.

59. Standard for Injunctive Relief. Whenever DEQ has reasonable cause to believe that any person has violated or is threatening to violate any of the provisions of the State's water quality laws or administrative rules, DEQ is authorized to "request the Attorney General to institute a civil action in the name of the State upon the relation of [DEQ] for injunctive relief to restrain the violation or threatened violation." N.C. Gen. Stat. § 143-215.6C; *see also* N.C. Gen. Stat. § 143-215.114C (pertaining to injunctive relief to enforce air quality laws). That section further provides that "[u]pon a determination by the court that the alleged violation of the provisions of this Part or the regulations of the [EMC] has occurred or is threatened, the court shall grant the relief necessary to prevent or abate the violation or threatened violation." N.C. Gen. Stat. §§ 143-215.6C, 143-215.114C.

60. When the State brings an action to vindicate the public interest pursuant to a statute which provides for injunctive relief to abate violations of law, the usual test for issuance of injunctions need not be met. *See State ex rel. Morgan v. Dare To Be Great, Inc.*, 15 N.C. App. 275, 189 S.E.2d 802 (1972) (negating the general rule that there will be no equitable relief if there is an adequate remedy at law when the statutory scheme provided the State with injunctive relief under the circumstances presented). For example, the State is not required to show actual injury, such as irreparable harm, in order to obtain injunctive relief, including a preliminary injunction. *State ex rel. Edmisten v. Challenge, Inc.*, 54 N.C. App. 513, 521-22, 284 S.E.2d 333, 338-39 (1981) (explaining that irreparable harm need not be established by the State as long as the statutory conditions for issuance of a preliminary injunction exist). Rather, it must show only that the acts

or practices complained of adversely affect the public interest. *See id*. An adverse effect on the public interest exists as a matter of law where the statutory conditions for issuance of injunctive relief are present, i.e., where a violation of the applicable statute or regulations exists or is threatened. *Id.* at 522, 284 S.E.2d at 339.

61. Violations. The Court concludes that Chemours has violated multiple North Carolina laws and regulations pertaining to the protection of North Carolina's water resources:

a. *Unpermitted discharge of undisclosed pollutants.* Chemours violated N.C. Gen. Stat. § 143-215.1(a)(1) by "making an outlet" or engaging in the unpermitted discharge of GenX Compounds and other PFAS into waters of the State without disclosing the existence of these compounds in its discharge.

b. *Failure to disclose.* Chemours violated 15A N.C.A.C. 2H .0105(j) and NPDES Permit Standard Condition II.E.8 by failing to fully disclose all known toxic components reasonably expected to be in its discharge.

c. *Failure to operate and maintain.* Chemours violated NPDES Permit Standard Condition II.C.2 by failing to properly operate and maintain all facilities and systems of treatment and control at the Facility, including allowing the so-called "terracotta pipe" (which, prior to November 2017, conveyed process wastewater from Chemours' manufacturing areas to its wastewater treatment plant) to leak process wastewater into groundwater beneath the Facility.

d. *Unpermitted discharge into Nafion Ditch and bypass of wastewater*

treatment plant. Chemours violated N.C. Gen. Stat. § 143-215.1(a)(1) by "making an outlet" into waters of the state or engaging in the unpermitted discharge of wastewater into the Nafion Ditch and bypassing the Facility's wastewater treatment plant.

e. *Failure to timely report October 6, 2017 Spill.* Chemours violated NPDES Permit Standard Condition II.E.9 by failing to timely report the release of GenX Compounds that occurred on October 6, 2017.

f. *Violation of Fresh Surface Water Quality Standards for WS-IV Waters*: Chemours violated 15A N.C.A.C. 2B .0216(3)(a) by discharging untreated wastewater through Outfall 002 after its unreported spill of GenX Compounds on October 6, 2017.

g. *Contamination of groundwater.* Chemours violated 15A N.C.A.C. 2L .0103 and 15A N.C.A.C. 2L .0202 by conducting an activity which has caused substances in groundwater to exceed concentrations allowed by 15A N.C.A.C. 2L .0202. Specifically Chemours has caused the following non-naturally occurring substances to be detected in concentrations above the practical quantitation limit: PFPrOPrA (GenX) CAS No. 13252-13-6; PFBS CAS No. 375-73-5; PFDA CAS No. 335-76-2; PFDoA CAS No. 307-55-1; PFHpA CAS No. 375-85-9; PFHxS CAS No. 355-46-4; PFHxA CAS No. 307-24-4; PFNA CAS No. 375-95-1; PFTriA CAS No. 72629-94-8; PFUnA CAS No. 2058-94-8; PFPeA CAS No. 2706-90-3; PFMOAA CAS No. 674-13-5;

PFECA_F CAS No. 377-73-1; PFO2HxA CAS No. 39492-88-1; PFO3OA CAS No. 39492-89-2; PFO4DA CAS No. 39492-90-5; PFO5DA CAS No. 39492-91-6; PFESA Byproduct 1 CAS No. 66796-30-3, and PFESA Byproduct 2 CAS No. 749836-20-2.

h. *Failure to terminate and control sources of groundwater contamination.* Chemours has violated 15A N.C.A.C. 2L .0106(f) by failing to timely identify and implement measures to terminate or control sources of groundwater contamination.

Based on the foregoing findings and conclusions, it is therefore ORDERED, JUDGED and DECREED that during the pendency of this action:

COMPLIANCE MEASURES – AIR EMISSIONS

62. Emissions Reductions: Chemours shall achieve the overall emissions reductions of GenX Compounds in accordance with the following schedule.

a. By August 31, 2018, Chemours shall reduce facility-wide emissions of GenX Compounds by at least 97% from 2017 Total Reported Emissions.

b. By December 31, 2019, Chemours shall reduce facility-wide emissions of GenX Compounds by at least 99% from Chemours' reported 2017 Total Reported Emissions.

Within ninety (90) days of each deadline set forth in this paragraph, Chemours shall submit to DAQ a demonstration of compliance with applicable emissions reductions.

63. Control of all PFAS: By December 31, 2019, Chemours shall control all PFAS

emissions from the HFPO Process, the Vinyl Ethers North Process, the Vinyl Ethers South Process, the RSU Process, the TFE Process, the MMF Process, the Polymers Process, and the PPA Process at an efficiency of 99.99%. Within ninety (90) days of December 31, 2019, Chemours shall submit to DAQ a demonstration of compliance with this requirement.

64. Disclosure of PFAS emissions: Chemours shall have an ongoing duty to disclose (1) any previously undisclosed PFAS and emissions rates for those PFAS, and (2) any new process or production that may lead to the addition of any previously undisclosed PFAS in the Facility's emissions. For any such PFAS, Chemours shall provide DAQ with test methods and lab standards.

COMPLIANCE MEASURES – SURFACE WATER

65. No Discharge of Process Wastewater from Chemours Manufacturing Areas: Chemours shall not discharge process wastewater from Chemours' manufacturing areas unless or until issuance of an NPDES Permit expressly authorizing the discharge of such process wastewater and with such limits as DEQ deems necessary and appropriate to control the discharge of GenX Compounds and other PFAS.

66. Characterization of PFAS in process and non-process wastewater and stormwater at the Facility:

a. *Test methods and lab standards*: By no later than twelve (12) months of issuance of this Order, Chemours shall provide DWR with test methods and lab standards for all PFAS in all process and non-process wastewater and stormwater at the Facility, including but not limited to all process and non-process wastewater and stormwater discharged through Outfall 002. Chemours shall follow the EPA's Protocol for

Review and Validation of New Methods for Regulated Organic and Inorganic Analytes in Wastewater under EPA's Alternate Test Procedure Program, *see* https://www.epa.gov/sites/production/files/2016-03/documents/chemical-new-method-protocol_feb-2016.pdf, and shall write each test procedure in the standard EPA format.

b. *Sampling plan*: Within thirty (30) days of issuance of this Order, Chemours shall submit a sampling plan to DWR for approval. This sampling plan shall include proposed locations for the sampling to carry out the initial characterization of all PFAS described in subparagraph (c).

c. *Initial characterization*: Within thirty (30) days of approval of the sampling plan, Chemours shall commence submission of quarterly reports to DEQ identifying PFAS constituents and initial concentrations at reporting levels agreed to by DEQ in all process and non-process wastewater and stormwater at the Facility, including but not limited to all process and non-process wastewater and stormwater discharged through Outfall 002. As part of this report, process and non-process wastewater and stormwater shall be characterized from each of Chemours' manufacturing areas as well as the manufacturing areas of its tenants, Kuraray and DuPont. Similar testing for PFAS constituents in the raw water intake shall be performed in conjunction with all other

sampling in order to assess background concentrations. The final quarterly report shall be submitted, and initial characterization of all PFAS completed, no later than eighteen (18) months after approval of the sampling plan.

d. *Sampling frequency*: For all PFAS for which test methods and lab standards have been developed, on at least a monthly basis, Chemours shall sample for each such PFAS at approved locations and report the results to DWR.

e. *Ongoing duty to disclose*: Chemours shall have an ongoing duty to disclose (1) any previously undisclosed PFAS and concentrations of any previously undisclosed PFAS in all process and non-process wastewater and stormwater at the Facility, and (2) any new process or production that may lead to the addition of any previously undisclosed PFAS in process and non-process wastewater and stormwater at the Facility. For any such PFAS, Chemours shall provide DWR with test methods and lab standards as specified in subparagraph (a) above.

67. Health Studies**:** Within sixty (60) days of issuance of this Order, Chemours shall submit a plan and proposed schedule for review and approval by DEQ for conducting or facilitating the conducting of toxicity studies relating to both human health and aquatic life sufficient to aid in development of surface water and groundwater regulatory standards for all PFAS present in the process and non-process wastewater and stormwater at the Facility discharged at Outfall 002. The plan shall be developed in consultation with DEQ, and shall describe the specific steps to be taken

and a time schedule for accomplishing these measures. Chemours shall implement the measures set forth in the plan.

68. Notice to and Coordination with Water Utilities: In the event of an upset or other condition at the Facility that has the potential to cause a discharge of GenX Compounds into the Cape Fear River through Outfall 002 at concentrations exceeding 140 ng/L, Chemours shall provide notice to downstream public water utilities within one (1) hour of knowledge of the condition. Chemours shall maintain a list of appropriate contacts of downstream public water utilities, which Chemours shall routinely update by requesting contact information from DEQ. Chemours shall also post a description of the condition including any estimated quantity of the release on a publicly available website within twenty-four (24) hours of knowledge of the condition.

COMPLIANCE MEASURES – GROUNDWATER

69. Permanent Replacement of Private Drinking Water Supplies: By no later than twelve (12) months after issuance of this Order, Chemours shall establish permanent replacement water supplies for each household with a water supply well contaminated by any PFAS in exceedance of a health goal established by DHHS or of a health advisory level established by the EPA ("affected households"). The replacement water supply shall be established by connection to a public water supply, except that (1) an affected household may elect to receive a filtration system approved by DEQ in lieu of a connection to public water supply, in which case Chemours shall install a filtration system, or (2) if DEQ determines that connection to a public water supply to a particular household would be cost-prohibitive or unsafe, DEQ may authorize provision of a permanent replacement water supply to that household through installation of a filtration system.

For affected households Chemours shall be liable for any water bills from public utilities and for periodic required maintenance of the filtration systems. Chemours shall submit a plan for compliance with this provision, including a detailed schedule with milestones, no later than sixty (60) days after entry of this Order. This provision shall supplement any prior requirements regarding the provision of permanent replacement water supplies.

70. Re-Testing of Private Wells: Chemours shall conduct testing of private drinking water supply wells as follows:

a. for wells with test results for GenX Compounds above 70 ng/L but less than 140 ng/L, Chemours shall re-test on a quarterly basis until sampling shows that results of less than 70 ng/L for eight consecutive sampling events;

b. for wells with test results for GenX Compounds showing detectable concentrations of less than 70 ng/L, Chemours shall re-test on a semiannual basis until sampling shows that results of non-detect for four consecutive sampling events;

c. for wells with test results showing no detectable concentrations of GenX Compounds, Chemours shall re-test on an annual basis until sampling shows no detectable concentrations of GenX Compounds for two consecutive sampling events.

Chemours shall provide to DEQ a list of residents within these sampling ranges, identified by both their address and sample ID. Chemours shall also provide to DEQ a list of wells (identified by

address) targeted for testing that have not yet been tested and verifying its efforts to test these wells.

71. Geographic Extent of Private Well Testing: Chemours shall continue to sample drinking water wells for a distance of at least one quarter (1/4) mile beyond the nearest well with test results showing a detectable level of GenX Compounds.

72. Lining of Nafion Ditch and Sedimentation Ponds: Within fourteen (14) days of issuance of this Order, Chemours shall submit a plan for approval by DWM to permanently line the entire Nafion Ditch and all sedimentation ponds. Chemours shall complete permanent lining of the Nafion Ditch no later than August 31, 2018 in accordance with the plan approved by DWM, except for the approximately thirty (30) feet of Nafion Ditch in the area of the designated blast zone which shall be permanently lined no later than October 31, 2018. Chemours shall complete permanent lining of (1) the south sedimentation pond no later than November 1, 2018 and (2) the north sedimentation pond no later than December 1, 2018 in accordance with the plan approved by DWM.

73. Comprehensive Receptor Survey: Within 30 days of entry of this Order, Chemours shall submit to DWM a comprehensive receptor survey to include drinking water wells and surface waters within a ten (10) mile radius of the Facility.

74. Plan to Control Flow of Onsite Groundwater: Within sixty (60) days of entry of this Order, Chemours shall submit to DWM an engineering study analyzing methods by which onsite groundwater flow to receptors (including drinking water wells and surface waters) can be reduced or eliminated, and which do not involve discharge to the Cape Fear River. Chemours shall implement the approved plan in accordance with a schedule approved by DWM.

75. On and Offsite Assessment: Within thirty (30) days of entry of this Order, Chemours shall submit a comprehensive plan to characterize the full extent of on and offsite groundwater contamination (i.e., concentrations above the PQL in groundwater for any PFAS). This plan shall also include characterization of the full extent PFAS contamination of soil, surface water, drinking water wells and ecological receptors. Chemours shall implement the approved plan in accordance with a schedule approved by DWM.

PUBLIC MEETINGS

76. Whenever Chemours proposes to make a material change to its facility operations, including but not limited to a change that results in the use, production, or release into the environment of a previously undisclosed PFAS, Chemours shall conduct at least one public meeting and prior to the meeting, notify DEQ when and where the meeting will occur. Any meeting shall be held prior to any permit applications for the change being submitted to DEQ.

DEQ CONTACTS

77. Any information or documents submitted pursuant to this Order shall be submitted to the appropriate division using the contact information listed below. The contact listed for DEQ shall be copied on all submissions to the appropriate division:

DWR:

Linda Culpepper
Interim Director, Division of Water Resources,
North Carolina Department of Environmental Quality
1611 Mail Service Center
Raleigh, NC 27699-1611

DWM:

Michael E. Scott

Director, Division of Waste Management
North Carolina Department of Environmental Quality
1646 Mail Service Center
Raleigh, NC 27699-1641

DAQ:

Michael A. Abraczinskas
Director, Division of Air Quality
North Carolina Department of Environmental Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

DEQ:

Sheila Holman
Assistant Secretary for the Environment,
North Carolina Department of Environmental Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

COMPLIANCE AND ENFORCEMENT

78. Nothing in this Order limits Chemours' obligations to comply with the requirements of all applicable state and federal laws and regulations. This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

79. DEQ shall determine Chemours' compliance with the terms of this Order, and DEQ may request that the Court exercise its contempt authority pursuant to provisions of Article 2, Chapter 5A of North Carolina General Statutes to enforce this Order.

80. Nothing in this Order prevents DEQ from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Chemours in the future to perform additional activities pursuant to applicable law. Nothing in this Order shall limit DEQ's power and authority to pursue enforcement against other entities liable for violations identified in this Order.

EFFECTIVE DATE

81. This Order shall become effective on the date that it is entered.

82. This Order may be signed out-of-court, out-of-term, and out-of-county.

This the __ day of ____, 2018.

DRAFT FOR PUBLIC REVIEW
Superior Court Judge