



Submissions to the State of North Carolina and Cape Fear River Watch

The following table identifies submissions made by Chemours pursuant to the Consent Order and Addendum (COA) for the period of October 1, 2021 through the end of the fourth quarter on December 31, 2021.¹

CO Section	Title	Submitted Date
11a	PFAS Non-Targeted Analysis and Methods Interim Report #4	12/23/2021
12 - COA 1b	Cape Fear River PFAS Mass Loading Assessment Report - Third Quarter 2021	12/23/2021
12 - COA 2a	Interim Seep Remediation Seep B Effectiveness Demonstration Report	11/04/2021
12 - COA 2a	Interim Seep Remediation Seep D Effectiveness Demonstration Report	10/21/2021
12 - COA 2a	Interim Seep Remediation O&M Report #5	11/30/2021
26	Final TOF Report	12/31/2021
28	Quarterly Progress Report	10/29/2021

¹ Consent Order submissions by Chemours from lodging of the Proposed Consent Order in November 2018 through March 31, 2019 were presented in the 2019 1st quarter report, April 1, 2019 through June 30, 2019 in the 2019 2nd quarter report, July 1, 2019 through September 30, 2019 in the 2019 3rd quarter report, October 1, 2019 through December 31, 2019 in the 2019 4th quarter report, January 1, 2020 through March 31, 2020 in the 2020 1st quarter report, April 1, 2020 through June 30, 2020 in the 2020 2nd quarter report, July 1, 2020 through September 30, 2020, in the 2020 3rd quarter report, October 1, 2020 through December 31, 2020 in the 2020 4th quarter report, January 1, 2021 through March 31, 2021 in the 2021 1st quarter report, April 1, 2021 through June 30, 2021 in the 2021 2nd quarter report, and July 1, 2021 through September 30, 2021 in the 2021 3rd quarter report.



2021 Fourth Quarter Residential Summary

Item	Cumberland County (East of River)	Cumberland County (West of River)	Bladen County (East of River)	Bladen County (West of River)	Robeson County	Sampson County	Total
Total Number of Residences Sampled	659	253	14	31	14	26	997
Residences Exceeding GAC Criteria (GenX \geq 140 ng/L)	1	1	0	0	0	0	2
Residences Exceeding RO Criteria (Σ PFAS \geq 70 ng/L)	51	16	2	3	1	0	73
Residences Exceeding RO Criteria (PFAS \geq 10 ng/L)	250	63	5	9	4	4	335
Residences Drinking Water Well Detections (Results $<$ 10 ng/L)	140	82	1	2	5	6	236
Residences Drinking Water Well Non-Detections	46	26	2	5	2	5	86



Replacement Drinking Water Actions

(Replacement drinking water actions from November 2018² - December 31, 2021)

Summary		Number of residents on bottled water	GAC Systems On-line & Confirmation Sampling Complete	Number of Homes Where RO Systems Installed
	Total		2696	111

Bottled Water		Residences Eligible for Bottled Water	Already connected to Public Water	Eligible Residences Receiving Bottled Water
	Q4 2021		431	0
Total		2881	159	2696

GAC		Residences Eligible for GAC	Already connected to Public Water	Public Water Readily Available	Public Water Feasible	Residents Declined GAC System	GAC Systems to Install	Number of Residences Responded to GAC Offer (Interview Conducted or Declined Offer)	
	Q4 2021		2	Data Not Available	0	0	0	2	1
	Total		269	25	Data Not Available	Data Not Available	7	126	122
		Number of GAC Systems to Install but Resident has Not Responded to Offer	System On-line	Confirmation Sampling Complete	GAC Offer Letters Sent to Residents	Call Log Interactions with GAC Residents	GAC Residence Response Rate		
Q4 2021		Not Applicable	0	2	5	226	Not Applicable		
Total		107	104	111	313	4205	45%		

RO		Residences Eligible for RO (includes homes with shared wells)	Number of Residences Responded to RO Offer	Residents Declined RO	Homes/Buildings where RO Systems to be Installed but Resident has Not Responded	RO Residence Response Rate	
	Q4 2021		494	513	10	184	Not Applicable
	Total		5716	3875	119	1591	67%
		Number of Homes where RO Systems Installed	Homes/Buildings where RO Systems are to be Installed	Number of RO Offer Letters Sent to Residences	Call Log Interactions with RO Residents		
Q4 2021		210	494	690	2029		
Total		2873	2506	7109	24919		

² The date the proposed Consent Order was lodged.

Consent Order Progress Details

This section summarizes the activities that have been undertaken by Chemours pursuant to the Consent Order Compliance Measures and Addendum for the period from October 1, 2021 through the end of the fourth quarter of 2021 (December 31, 2021). On August 13, 2020, Chemours signed the Addendum to Consent Order Paragraph 12, and the Addendum was entered by the Bladen County Superior Court on October 12, 2020.

Section 7 Control Technology Improvements

The thermal oxidizer (see photo at right) continues to control process emissions at an average PFAS destruction efficiency exceeding 99.99%.



Section 10 No Discharge of Process Wastewater from Chemours' Manufacturing Areas

Chemours does not discharge its process wastewater and instead collects and ships its process wastewater offsite for disposal or recycles treated water internally within several manufacturing processes.

Section 11 Characterization of PFAS in Process and Non-Process Wastewater and Stormwater at the Facility

During the fourth quarter of 2021, one sampling event was conducted during December 8 - 10, 2021 (the December 2021 event). Samples were collected from 27 locations during the December 2021 event. Data from the August 2021, September 2021, and December 2021 events were evaluated and compiled for presentation in the next semi-annual report, to be submitted by March 31, 2022.

Pursuant to Paragraph 11.a of the Consent Order, the PFAS Non-Targeted Analysis and Methods Interim Report #4 was submitted on December 23, 2021.

Section 12 Accelerated Reduction of PFAS Contamination in the Cape Fear River and Downstream Water Intakes, and Addendum to Consent Order Paragraph 12

Chemours continued operation of the treatment system for the Old Outfall (Outfall 003) pursuant to Consent Order Paragraph 12(e) and a NPDES permit issued by NCDEQ.

As noted above, the Addendum to Consent Order Paragraph 12 was signed in the third quarter of 2020 and entered by the Court during the fourth quarter of 2020. Chemours' Addendum implementation activities during the fourth quarter of 2021 included:

Consent Order Addendum Paragraph 1

On December 23, 2021, Chemours submitted to NCDEQ and Cape Fear River Watch the Cape Fear River PFAS Mass Loading Assessment – Third Quarter 2021 Report pursuant to Consent Order Addendum



Paragraph 1(b). The report describes sampling activities and mass loading results for the Cape Fear River and PFAS loading pathways from the third quarter of 2021. This submission was also pursuant to quarterly reporting of mass loading sampling outlined in the Corrective Action Plan (Paragraph 16). In each of October, November, and December 2021, Chemours conducted monthly mass loading sampling required by Consent Order Addendum Paragraph 1.

Consent Order Addendum Paragraph 2

During the fourth quarter of 2021, Chemours operated and maintained the four flow-through cells, i.e., the interim remediation systems, at Seeps A-D. On November 30, 2021, Chemours submitted the Interim Seep Remediation Operation and Maintenance Report #5. The Operation and Maintenance report describes the operations and maintenance activities at the flow-through cells over the bimonthly reporting period of September/October. Additionally, on October 21 and November 4, 2021, Chemours submitted the Interim Seep Remediation Effectiveness Demonstration Reports for Seeps D and B, respectively. These reports provided a record of construction completion and demonstration of interim effectiveness for the Seep B and Seep D systems.

Consent Order Addendum Paragraph 3

As required by the Addendum, the Black Creek Aquifer interim measure system to extract groundwater from the seven existing Black Creek Aquifer monitoring wells (BCA-01, BCA-02, PW-11, PW-14, PW-15R, PIW-9D, and PIW-10DR) continued to operate in the fourth quarter as designed. During the fourth quarter of 2021 (October, November, and December), the system extracted 700,732 gallons of water for a total of 1,951,632 gallons since startup on November 30, 2020. The replacement of the electric submersible pumps with piston pumps in the four deeper extraction wells (BCA-01, BCA-02, PW-14, and PW-15R) has significantly improved the system and resulted in a 60 percent increase in the amount of water extracted. The wells have continued to operate as designed with only minor, routine shutdowns for maintenance or equipment issues.

On October 5, 2021, Chemours submitted responses to NCDEQ comments on the 60 percent design submittal package and the PDI Report received on September 15, 2021. The responses provided additional clarification on details of the remedy design, rationale for methods employed in the 60% design submittal, and discussion of how the submitted design package meets the requirements of the CO Addendum. NCDEQ and Chemours conducted a Site visit on December 16, 2021 to discuss performance monitoring for the remedy.

Consent Order Addendum Paragraph 4

Consistent with the Stormwater Sampling Plan, Chemours conducted two sampling events in October 2021, one sampling event in November 2021, and two sampling events in December 2021 during the stormwater treatment system operation for removal of PFAS compounds. The monthly monitoring reports for September 2021 – December 2021 will be submitted in the first quarter of 2022. The treatment system also consistently captured stormwater runoff from precipitation events of up to the 1-inch, 24-hour design storm during the fourth quarter of 2021.

Section 14 Toxicity Studies

Following a technical meeting between NCDEQ, Chemours, and Eurofins (the aquatic toxicity contract laboratory), NCDEQ provided final comments on the aquatic protocols. Eurofins is incorporating these comments into their protocols and addressing some additional requests from NCDEQ.

The 28-day immunotoxicity study draft protocols were submitted to NCDEQ during the fourth quarter. Chemours requested confirmation of the intended guideline for the 90-day study and received a reply in late December, which is under review.

Section 16 Groundwater Remediation

On December 23, 2021, Chemours submitted to NCDEQ and Cape Fear River Watch the Cape Fear River PFAS Mass Loading Assessment – Third Quarter 2021 Report pursuant to Consent Order Addendum Paragraph 1(b). This submission was also pursuant to quarterly reporting of mass loading sampling outlined in the Corrective Action Plan (Paragraph 16). On-going groundwater remediation activities are being conducted pursuant to Consent Order Addendum Paragraph 3 and are described earlier in this document under that paragraph.

Sections 19 and 20 Provision of Public Water Supplies, Whole Building Filtration Systems, and Reverse Osmosis Drinking Water Systems

As shown in the summary tables above, Chemours continues to make significant progress in implementing the Consent Order requirements of Paragraphs 19 and 20. Since resuming RO installations in June 2020, following the COVID-19 postponement period, the pace of RO acceptance rates and installations has been on the rise. O&M activities for installed GAC systems continues uninterrupted. Bottled water services continue uninterrupted for 2,696 homes. In September 2021, Chemours entered into an agreement with Bladen County to fund public water system upgrades and connections associated with providing permanent replacement drinking water supplies under the Consent Order, and Chemours proceeded with implementation of the agreement during the fourth quarter of 2021.

Section 21 Private Well Testing

As of December 31, 2021, 13,467 residences have been identified within the current study area, of which 8,542 have been sampled and 3,547 additional residences have received at least one initial sample offer letter. Results of sampling that occurred throughout the fourth quarter of 2021 (997 residences) are presented at the beginning of this progress report. Current Step-out and Infill distance intervals range from 2.5 miles to 18.5 miles from the Site.

Chemours continues to follow the private well cold calling protocol (i.e., to confirm residences, tenant/owner name and phone number, addresses, not connected to public water, and residents' willingness to have a sample collected from their drinking water well).

Section 22 Provision of Sampling Results

Chemours provided (and continues to provide) sampling results to NCDEQ and residents as required under the Consent Order. Chemours has provided sampling results to NCDEQ by sending a courtesy email notification and by uploading sampling results to the state Equis database. Chemours has also provided final lab reports to NCDEQ. Chemours has provided sampling results to residents by including preliminary results with water filtration system initial offer letters and sending the final lab reports to

residents within the following 30 days. Chemours has also provided non-detect sampling results to residents.

Section 23 Interim Replacement of Private Drinking Water Supplies

All residences eligible to receive the interim replacement drinking water supplies have received the supplies (i.e., bottled water or voucher card for bottled water). As of December 31, 2021, there are 2,696 residences receiving bottled water services.

Section 24 Drinking Water Compliance Plan

As discussed above, the off-site replacement drinking water program continues. The Drinking Water Compliance Plan is currently under review and some of the protocols are being revised based on discussions with NCDEQ. The following revised procedures are currently implemented based on approval by NCDEQ:

- Point-of-Use (POU) Granular Activated Carbon (GAC) filtration systems for commercial establishments that were eligible for RO systems, pursuant to NCDEQ's approval letter dated January 5, 2021.
- Chemours connected six homes in Cumberland County to public water as part of a pilot program and a report was submitted to NCDEQ on June 25, 2021 and approved by NCDEQ on September 22, 2021. The program is now expanding to include additional residences for public water connection in the study area.
- Starting in the second quarter of 2020, the GAC OM&M sampling has been revised to include quarterly sampling in between the lead and lag carbon vessel and one annual raw water sample.

Chemours met with NCDEQ on October 5, 2021 via teleconference. The purpose of this meeting was to discuss ongoing challenges with the private well sampling and replacement drinking water program and a proposed path forward. Topics included:

- Residents who continue to be non-responsive to treatment system offers;
- NCDEQ sampling of private wells; and
- Chemours sampling and consensus on delineation of the private well testing program.

Section 26 Total Organic Fluorine

The Total Organic Fluorine Final Report was submitted on December 31, 2021.

Section 28 Reporting

Chemours submitted the Consent Order 3rd quarter 2021 progress report on October 29, 2021.

Sections 29 and 30 Public Information

Chemours has continued to post its Consent Order submissions at

<https://www.chemours.com/Fayetteville-Works/en-us/c3-dimer-acid/compliance-testing/>.