



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

The following table identifies submissions made by Chemours pursuant to the requirements of the Consent Order for the period of October 1, 2019 through the end of the fourth quarter on December 31, 2019.<sup>1</sup>

CO Section	Submitted To	Title	Submitted Date
8	NCDAQ	82% Facility-Wide Reduction of GenX Compounds Emissions Pursuant to Consent Order Paragraph 8.a	12/03/2019
8	NCDAQ	Vinyl Ethers North Carbon Bed and Stack Test Report and Polymers Stack Test Report	10/25/2019
8	NCDAQ	Monthly Emissions Report	10/21/2019
8	NCDAQ	Monthly Emissions Report	11/20/2019
8	NCDAQ	Monthly Emissions Report and Vinyl Ethers South Carbon Bed and Stack Test Report	12/20/2019
11	NCDEQ	Quarterly Report for Characterization of PFAS in Process and Non-Process Wastewater and Stormwater	10/31/2019
12	NCDEQ	Cape Fear River PFAS Loading Reduction Plan – Supplemental Information Report	11/04/2019
16	NCDEQ	Corrective Action Plan	12/31/2019
18	NCDEQ	Updated On and Offsite Assessment Report	10/31/2019
26	NCDEQ	Total Organic Fluorine First Quarterly Report	12/10/2019
28	NCDEQ	Consent Order Quarterly Progress Report	10/17/2019

2019 Year-End Residential Drinking Water Well Summary

Item	Cumberland County (East of River)	Cumberland County (West of River)	Bladen County (East of River)	Bladen County (West of River)	Robeson County	Total
Total Number of Residences Sampled <sup>1</sup>	357	1695	71	197	112	2432
Residences Eligible for GAC (Results ≥ 140 ng/L)	52	95	5	55	2	209
Residences Eligible for RO (Σ PFAS ≥ 70 ng/L)	165	689	17	56	40	967
Residences Eligible for RO (PFAS ≥ 10 ng/L)	98	475	16	57	36	682
Resident Drinking Water Well Detections (Results < 10 ng/L)	8	23	4	2	16	53
Resident Drinking Water Well Non-Detections	29	224	26	26	11	316

**Notes:**

<sup>1</sup> The total number of residences sampled **does not equal** the sum of the values in each column because (1) the residences sampled may share drinking water wells; therefore there may be more than one filtration system per resident sampled, and (2) the residences lab results are pending because the sample is still being analyzed at the lab.

<sup>1</sup> Consent Order submissions by Chemours from lodging of the Proposed Consent Order in November 2018 through March 31, 2019 were presented in the 1<sup>st</sup> quarter report, April 1, 2019 through June 30, 2019 in the 2<sup>nd</sup> quarter report, and July 1, 2019 through September 30, 2019 in the 3<sup>rd</sup> quarter report.



Replacement Drinking Water Actions

(Replacement drinking water actions from November 2018<sup>2</sup> - December 31, 2019)

Summary		Number of residents on bottled water	GAC Systems On-line & Confirmation Sampling Complete	Number of Homes Where RO Systems Installed
	Total		1478	71

Bottled Water		Residences Eligible for Bottled Water	Already connected to Public Water	Eligible Residences Receiving Bottled Water
	4Q 2019	788	0	788
	Total	1478	3	1475

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)
	4Q 2019	2	0	0	0	0	2	12
	Total	209	3	13	36	0	206	104
		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	
	4Q 2019	Not Applicable	8	8	2	66	Not Applicable	
Total	105	71	71	209	459	50%		

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
	4Q 2019	822	150	0	672	Not Applicable
	Total	1649	539	5	1110	33%
		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	
	4Q 2019	104	822	1198	572	
Total	440	1644	1603	1678		

<sup>2</sup> 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 for the period from October 1, 2019 through the end of the fourth quarter of 2019 (December 31, 2019).

### Section 7 Control Technology Improvements

Chemours successfully completed installation and startup of its new thermal oxidizer facility (see photo at right) on December 27, 2019. Construction was mechanically complete in November, and after routine commissioning activities and tests for the facility, the thermal oxidizer became fully operational on December 27. Chemours switched to the permitted operating scenario for the thermal oxidizer on December 31. Within 90 days of installation, Chemours and the North Carolina Division of Air Quality will conduct testing to confirm that the thermal oxidizer is destroying 99.99% of all PFAS air emissions routed to it (from the HFPO, Vinyl Ethers North, Vinyl Ethers South, Polymers, RSU, TFE and MMF processes).



### Section 8 GenX Emissions Reduction Milestones

During the fourth quarter, Chemours submitted monthly emissions reports in October, November, and December, which provided the details of emissions to date to meet the Consent Order requirements of 82% and 92% for plant-wide interim reductions of air emissions of GenX Compounds. A final report demonstrating compliance with the Consent Order Section 8.a 82% reduction requirement was submitted on December 3, 2019.

Pursuant to Consent Order Section 8.b.i., Chemours completed testing of the facility's 2019 product campaigns with testing for E2 in December 2019, which was the first run of that product in 2019. Chemours submitted the E2 emissions test report on January 21, 2020.

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

Chemours continues to not discharge its process wastewater and to ship all of its process wastewater offsite for disposal.



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

Chemours' consultant Geosyntec prepared its second quarterly report describing and analyzing characterization sampling of process water, non-process wastewater and stormwater that occurred in August 2019, as well as samples from April 2019 and June 2019 that were re-analyzed to achieve lower reporting limits. Chemours submitted the report to NCDEQ on October 31, 2019. Additional bimonthly sampling under Paragraph 11 was conducted on October 9 and 10 as well as December 20 and 23, 2019. Samples were collected from 19 locations during the October 2019 sampling event and from 22 locations during the December 2019 event. Geosyntec is preparing the next quarterly report for submission by January 31, 2019 to include data from these events.

During the fourth quarter, Chemours also completed non-targeted testing on two sets of samples collected during June and August 2019. Samples were collected from five locations. There were no detections of any new analytes in samples collected from locations 8, 15, and 20.

Sample Location Number	Sample Location Description
8	Outfall 001 non-Chemours treated process wastewater discharged to open channel to Outfall 001
15	Combined stormwater and NCCW discharge from eastern portion of the Facility
20	Outfall 002 to Cape Fear River

There were detections of new analytes in initial testing of samples collected from locations 16 and 17 (process wastewaters sent for offsite disposal). Chemours is in the process of determining the structure of the new analytes and will communicate its findings when available.

Sample Location Number	Sample Location Description
16	Chemours Monomers IXM Area combined process wastewater
17	Chemours PPA Area combined process wastewater

### Section 11.2 Characterization of PFAS Contamination in River Sediment

Chemours received from NCDEQ comments on the Sediment Characterization Plan on November 20, 2019. Chemours is preparing responses to these comments and will submit the responses in January 2020.



## Section 12 Accelerated Reduction of PFAS Contamination in the Cape Fear River and Downstream Water Intakes

On November 4, 2019, Chemours submitted the Cape Fear River Loading Reduction Plan – Supplemental Information Report prepared by Chemours’ consultants Geosyntec and Parsons. On December 19, 2019, Chemours received comments from NCDEQ and Cape Fear River Watch. Chemours is preparing responses to these comments and will submit the responses in January 2020.

## Section 14 Toxicity Studies

During the fourth quarter, Chemours discussed its plan for the studies with NCDEQ. Study protocol development has started, and data collection is targeted to begin in March or April 2020.

## Section 16 Groundwater Remediation

Chemours submitted the Corrective Action Plan (CAP), prepared by Geosyntec, on December 31, 2019. The CAP describes proposed remediation activities to address legacy PFAS in groundwater and surface waters at Fayetteville Works, in accordance with the requirements of the Consent Order and the North Carolina 2L Rules. The CAP also contains supporting documentation, including ecological and human health screening level exposure assessments (SLEAs).

## Section 18 On and Off-site Assessment

Chemours submitted to NCDEQ an updated version of the On and Offsite Assessment Report on October 31, 2019. The updated report included newly available data from on and offsite soil and groundwater samples and a synoptic groundwater level collection event. Associated text, tables, figures and appendices were also updated.

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

Chemours’ contractors continued to install GAC whole building filtration systems and RO drinking water systems at residences. Statistics are provided in the “Replacement Drinking Water Actions” section above.

## Section 21 Private Well Testing

The Adaptive Step Out and Infill Sampling Program has been ongoing since the 3<sup>rd</sup> quarter of 2019. Two to four stages of step out sampling have occurred across the sectors and the current step out distance intervals from the Site range from 4.5-5.5 miles to 9.5-10.5 miles. Results for the current stage of step out sampling are pending. Infill sampling is ongoing for all sectors and distance intervals from the Site range from 2.5-6.5 miles to 5.5-9.5 miles.

Since the Consent Order was signed, the project team has made a total of 8,248 visits to 4,651 residences and collected 2,492 samples. This quarter (October 2019 through December 2019) there have been 5,356 visits made to 3,347 residences and 1,463 samples have been collected.



### Section 22 Provision of Sampling Results

Chemours provided (and continues to provide) sampling results to NCDEQ and residences as required under the Consent Order.

### 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). As of December 31, 2019, there are 1,478 residences receiving bottled water.

### Section 26 Total Organic Fluorine

Chemours submitted to NCDEQ the Total Organic Fluorine first quarterly progress report on December 10, 2019, following NCDEQ's approval on October 2, 2019 of Dr. Susan D. Richardson as the third party contractor for the Total Organic Fluorine study.

### Section 28 Reporting

Chemours submitted the Consent Order 3rd quarter progress report on October 17, 2019.

### 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/>.