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NORTH CAROLINA
Environmental Quality

December 16, 2022

Ms. Dawn Hughes
Plant Manager
Chemours Company - Fayetteville Works
22828 NC Highway 87 West
Fayetteville, NC 28306

SUBJECT: Receipt of Permit Application
Modification of Permit No. 03735T48
Application No. 0900009.22B
Chemours Company - Fayetteville Works
Facility ID: 0900009, Fayetteville, Bladen County

Dear Ms. Hughes:

The subject permit application (0900009.22B) for Chemours Company - Fayetteville Works (Chemours) located in Fayetteville, Bladen County, North Carolina was accepted by the Division of Air Quality (DAQ) on November 3, 2022.

Chemours is requesting authorization to modify the Vinyl Ethers North (VEN) and Vinyl Ethers South (VES) plants and the IXM Membrane Process Area (ID Nos. NS-B, NS-C, and NS-H, respectively). The proposed modification will be referred to as the Proposed Project throughout this letter.

DAQ has reviewed the subject application in accordance with 15A NCAC 02Q .0504 and 15A NCAC 02Q .0312(a) and determined the application is incomplete. The items listed below must be addressed:

Fugitive Emissions of Methylene Chloride

Chemours calculated potential fugitive emissions of methylene chloride (MeCl) (ID No. I-03) by increasing the 2021 emissions by 20%. This percentage was selected assuming emissions would increase proportionally to the additional equipment / components that will be added as a result of the Proposed Project. This methodology is appropriate, but the use of 2021 data may underestimate emissions of MeCl. As shown in the table below, the 2021 fugitive emissions of MeCl represent the lowest emissions in the last five years.

Compound	Emissions as Reported in EI in (lb/yr)				
	2017	2018	2019	2020	2021
MeCl	6,933	4,046	1,800	8,057	1,159
Note: MeCl emissions (ID No. I-03) are not controlled by the thermal oxidizer (ID No. NCD-Q1).					

Please explain why 2021 emissions are appropriate as a basis for potential emissions from this source. If necessary, please provide updated potential emissions from the Proposed Project including revised fugitive MeCl emissions.

Baseline Actual Emissions

A project is considered a major modification under Prevention of Significant Deterioration (PSD) if there is a physical change in or a change in the method of operation of a major stationary source that would result in both a significant emissions increase and a significant net emissions increase. Chemours provided a PSD applicability analysis to determine if any regulated compounds would be subject to PSD review. Emission increases were calculated by comparing baseline actual emissions (BAE) to potential to emit (PTE) for the Proposed Project. Chemours selected calendar years 2018 and 2019 as the period for BAE, and the average emissions for these two years were used for the BAE.

- Thermal oxidizer (ID No. NCD-Q1), lime silo (ID No. NS-R1), and lime slaker (ID No. NS-R2) – Because the thermal oxidizer, the lime silo, and lime slaker were not operating in 2018 and 2019, Chemours used 2021 emissions for the BAE for these sources. This approach is not acceptable. For a new emission unit, which is defined in 40 CFR 51.166(b)(7)(i) "as any emissions unit that is (or will be) newly constructed and that has existed for less than 2 years from the date such emissions unit first operated," BAE are set to zero in accordance with 40 CFR Part 51.166 (b)(47)(iii). If these emission sources have been operating more than two years such that they are no longer considered new emission units, the BAE would still be set to zero because they were not operating during the baseline period (i.e., calendar years 2018 and 2019).

- Emissions from boilers (ID Nos. PS-A and PS-B) – The boilers at Chemours are used to produce steam for the Kuraray America, Inc. – Fayetteville facility (FID 0900091) and the DuPont Company - Fayetteville Works (FID 0900092), in addition to the Chemours site. The BAE were based on emissions for the operation of both boilers (ID Nos. PS-A and PS-B) in calendar years 2018 and 2019 and accounted for steam production for all three facilities.

  Post project emissions from the boilers were based on the highest steam production (kg/h) for Chemours only during 2021 and 2022. This value was then increased by 50% (a conservative increase according to Chemours), and annual natural gas usage was determined from this value. The natural gas usage was used to estimate emissions from the boilers. Chemours indicated operation of only one boiler was necessary and selected the largest boiler (ID No. PS-A) because of the higher associated emission factors.

  As noted above, the BAE for the boiler included emissions from steam produced in support of Kuraray America, Inc. – Fayetteville facility, DuPont Company - Fayetteville Works, and Chemours. Please provide justification for including the emissions from steam production supporting these facilities in the BAE, as boiler emissions from the Proposed Project were based only on steam production for Chemours.

Please provided a revised PSD applicability determination that includes the appropriate BAE for the thermal oxidizer (ID No. NCD-Q1), the lime silo (ID No. NS-R1), the lime slaker (ID No. NS-R2), and the boiler (ID No. PS-A).

Emissions of Fluorinated Organic Compounds

Chemours compared emissions of Fluorinated Organic Compounds (FOC) from the Proposed Project with 2021 emissions to demonstrate that the Proposed Project did not result in an increase in FOC. The FOC emissions used for this comparison represent proposed emissions, not potential emissions, from the modified processes. Potential emissions of FOC from the Proposed Project were also provided in the permit application and were based on 2021 emissions, adjusted for maximum production volume and hours of operation. The methodology for determining proposed emissions

was not well documented in the permit application. Please provide a detailed explanation of how the proposed emissions of FOC were determined.

As part of the application review, DAQ compared the potential emissions of FOC to the proposed emissions. Potential emissions of FOC were larger for all emissions sources included as part of the Proposed Project with the exception of the VEN plant (ID No. NS-B). As shown in the table below, created by DAQ, the total potential emissions of FOC (4,143.9 lb/yr) from the VEN plant are larger than the total proposed emissions (3,285.7 lb/yr). However, the proposed emissions for several specific FOC are larger than the potential emissions. Specific FOC with larger proposed emissions are shaded in the table below.

Compound Name	CAS No.	Fluorinated Organic Compounds (FOC)	VEN (NS-B) - Proposed (Actual Hours)				VE-North (NS-B)	Difference Between Potential and Proposed Emissions (lb/yr)
			Process (lb/yr)	Indoor Equipment Emissions (lb/yr)	Outdoor Equipment Emissions (lb/yr)	Total Emissions (lb/yr)	Post-Mod Potential Emissions (lb/yr)	
HFPO	428-59-1	FOC	4.8	656.69	0	661.49	839.23	177.74
HFP	116-15-4	FOC	2.1	31.12	89	122.22	105.32	-16.9
COF2	353-50-4	FOC	0	0	0	0	0	0
PAF	354-34-7	FOC	0	0	0	0	0	0
PMCP	379-16-8	FOC	0	0	0	0	0	0
A/F Solvent (n=4 TFF)	21703-48-0	FOC	0	0	0	0	0	0
A/F Solvent (n=1 TAF)	21703-43-5	FOC	0	0	0	0	0	0
A/F Solvent (n=2 TAF)	21703-45-7	FOC	0	0	0	0	0	0
A/F Solvent (n=3 TAF)	21703-47-9	FOC	0	0	0	0	0	0
A/F Solvent (n=4 TAF)	21703-49-1	FOC	0	0	0	0	0	0
Other A/F Compounds	NA	FOC	0	0	0	0	0	0
PPF	422-61-7	FOC	3.16	22.3	0	25.46	39.01	13.55
DA	4089-58-1	FOC	0.01	45.2	0	45.21	37.56	-7.65
MA	4089-57-0	FOC	0	2.01	0	2.01	1.67	-0.34
TA	4628-44-8	FOC	0	1.65	0	1.65	1.37	-0.28
RSU	677-67-8	FOC	0	0.82	0	0.82	0.68	-0.14
MAE	69116-72-9	FOC	0	6.31	0	6.31	1.6	-4.71
MMF	69116-71-8	FOC	0	3.76	0	3.76	0.96	-2.8
DAE	69116-73-0	FOC	0	9.75	0	9.75	2.48	-7.27
TAE	69116-67-2	FOC	0	0.43	0	0.43	0.11	-0.32
HFPO Trimer	2641-34-1	FOC	0	7.71	0	7.71	10.87	3.16
EVE	63863-43-4	FOC	0	7.38	219.45	226.83	57.65	-169.18
PPVE	1623-05-8	FOC	0.33	326.04	847.56	1173.93	2,105.22	931.29
PSEPVE	16090-14-5	FOC	0	27.59	736.94	764.53	635.16	-129.37
hydro-EVE	660857-95-4	FOC	0	0.43	9.75	10.18	2.59	-7.59
iso-EVE	73122-14-2	FOC	0	0.78	14.63	15.41	3.92	-11.49
C4	360-89-4	FOC	0.49	28.99	178.25	207.73	298.27	90.54
C5	376-87-4	FOC	0.01	0	0	0.01	0.01	0
TFE	116-14-3	FOC	0.22	0	0	0.22	0.22	0
Hydro-PSEPVE	75549-02-9	FOC	0	0	0	0	0	0
Iso-PSEPVE	34805-58-8	FOC	0	0	0	0	0	0
PMPF	2927-83-5	FOC	0	0	0	0	0	0
PEPF	1682-78-6	FOC	0	0	0	0	0	0
PMVE	1187-93-5	FOC	0	0	0	0	0	0
PEVE	10493-43-3	FOC	0	0	0	0	0	0
MD	2479-75-6	FOC	0	0	0	0	0	0
HydroPEVE	360796-50-5	FOC	0	0	0	0	0	0
E-1	3330-15-2	FOC	0	0	0	0	0	0
E-2	3330-14-1	FOC	0	0	0	0	0	0
E-3	3330-16-3	FOC	0	0	0	0	0	0
F-113	76-13-1	FOC	0	0	0	0	0	0
SU	697-18-7	FOC	0	0	0	0	0	0
Initiator	56347-79-6	FOC	0	0	0	0	0	0
Fluoroform*	75-46-7	FOC	0	0	0	0	0	0
Total FOC			**11.12**	**1178.96**	**2095.58**	**3285.66**	**4143.9**	**858.24**

This result leaves DAQ with no confidence in the FOC estimates for the VEN plant as an error may exist in either the determination of potential emissions, the proposed emissions, or both. Please reevaluate the potential and proposed scenarios from the VEN plant, and other emission sources as necessary, and provide revised emissions data.

It should be noted that GenX does not appear in the table of FOC emissions. Chemours provided a separate table in the permit application specifically for GenX emissions, which remain below the emission limit of 23.027 pounds per year after the Proposed Project. Please include GenX emissions in the table of FOC emissions from the project for completeness.

Impact of Emissions on Water Resources

DAQ continues to evaluate Chemours current FOC emissions from the facility as a whole and their impact on the environment. This evaluation is informed by DAQ's prior confirmation of a causal link between FOC emissions from Chemours and widespread degradation of groundwater quality, DAQ's analysis of deposition data nearby the facility, and an expanding area of groundwater and surface water quality impacts, including in downstream communities. With regard to the Proposed Project, and Chemours' representation of FOC emission increases for some specific compounds, DAQ does not have sufficient information to ensure protection of the State's water resources. DAQ requests that Chemours provide information sufficient to demonstrate that emissions from the project will not cause further degradation of the State's water resources in violation of applicable laws and regulations, including but not limited to a full fate and transport modeling analysis.

Please address the above requested information within thirty (30) days of receipt of this letter. Processing of this application will be stopped until DAQ receives the requested information.

Please note this letter does not preclude DAQ from requesting additional information at a later date if such information is necessary to properly evaluate the source, its air pollution abatement equipment, or the facility.

If you have any questions or concerns with respect to this additional information letter, please contact Betty Gatano, P.E., of my staff at (919) 707-8736.

Sincerely yours,

Mark J. Cuilla, EIT, CPM, Chief, Permitting Section
Division of Air Quality, NCDEQ

c: Laserfiche (0900009)