



Louisville Metro Air Pollution Control District  
701 West Ormsby Avenue, Suite 303  
Louisville, Kentucky 40203-3137



xx xx 2016  
**Title V Statement of Basis**

**Source/Owner:** E.I. du Pont de Nemours and Company

**Plant Location:** 4250 Camp Ground Road, Louisville, Kentucky 40216

**Date Application Received:** 08/25/2015

**Date Admin Complete:** 10/24/2015

**Date of Draft Permit:** xx/xx/2016

**Date of Proposed Permit:** xx/xx/2016

**District Engineer:** Shannon Hosey

**Permit No:** O-1912-16-V

**Plant ID:** 0062

**SIC Code:** 2869 & 2819

**NAICS:** 325188 & 325199

**Introduction:**

This permit will be issued pursuant to: (1) Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), 1 hr and 8 hr ozone (O<sub>3</sub>), and particulate matter less than 10 microns (PM<sub>10</sub>); and is a non-attainment area for the 1997 standard for particulate matter less than 2.5 microns (PM<sub>2.5</sub>), unclassifiable for the 2012 standard for particulate matter less than 2.5 microns (PM<sub>2.5</sub>) and partial non-attainment area for sulfur dioxide (SO<sub>2</sub>).

**Application Type/Permit Activity:**

Initial Issuance

Permit Revision

Administrative

Minor

Significant

Permit Renewal

**Compliance Summary:**

Compliance certification signed

Source is out of compliance

Compliance schedule included

Source is operating in compliance

**I. Source Information**

1. **Product Description:** E.I. du Pont de Nemours and Company, Inc. manufactures vinyl fluoride.
2. **Site Determination:** E.I. du Pont de Nemours and Company, Inc. split into two separate companies. The majority of the processes were retained by the Chemours Company FC, LLC and E.I. du Pont retained Emission Unit U6, VF Process. Both companies are in the same major industrial grouping. Chemours owns all of the property bounded by the current E.I. du Pont site and E.I. du Pont will lease the portion of the property where Emission Unit U6 is located. Chemours and E.I. du Pont are their own independent companies and do not share any common ownership or control. Each facility’s operations will be conducted by its own employees, with its own equipment, under its own permits, and in compliance with its own corporate directions and policies. Each company is a separate source.

3. **Emission Unit Summary:**

Emission Unit	Equipment Description
U6 – VF Process	Vinyl fluoride production

4. **Fugitive Sources:** There are fugitive emissions of VOCs from the VF process.

5. **Permit Revisions:**

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	O-1912-16-V	xx/xx/2016	xx/xx/2016	Initial	Entire Permit	Initial Permit Issuance. E.I. du Pont ’s processes were split off from a larger operation which is now Chemours.

6. **Emission Summary:**

Pollutant	District Calculated Actual Emissions (tpy) 2014 Data	Pollutant that triggered Major Source Status (based on PTE)
CO	1.48	No
NO <sub>x</sub>	1.76	No

Pollutant	District Calculated Actual Emissions (tpy) 2014 Data	Pollutant that triggered Major Source Status (based on PTE)
SO <sub>2</sub>	0.01	No
PM <sub>10</sub>	0.03	No
VOC	4.38	No
Total HAPs	1.81	No
Single HAP > 1 tpy Hydrogen Fluoride	1.78	No*

\* Source is a major due to applicability of a major source MACT at the time of the compliance date for the NESHAP (40 CFR 63 Subpart FFFF).

**7. Applicable Requirements:**

PSD       40 CFR 60       SIP       40 CFR 63  
 NSR       40 CFR 61       District-Origin       Other

**8. Referenced Federal Regulations in Permit:**

40 CFR 63 Subpart FFFF      National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing

40 CFR 63 Subpart SS      National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or Process Heaters

40 CFR Subpart 68      Chemical Accident Prevention Provisions

**9. Non-Applicable Regulations:** 40 CFR 63 Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, does not apply because potential emissions are below 25 tpy of Total HAP and 10 tpy of Single HAP.

40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, does not apply to any gas-fired boilers per 63.11195 (e).

**II. Regulatory Analysis**

**1. Acid Rain Requirements:** E. I. DuPont de Nemours & Co. is not subject to the Acid Rain Program.

**2. Stratospheric Ozone Protection Requirements:** Title VI of the CAAA regulates ozone depleting substances and requires a phase out of their use. This rule applies to any source that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. E. I. DuPont de Nemours & Co. does not manufacture, sell, or distribute any of the chemicals listed in Title VI of the CAAA. The source’s use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

**3. Prevention of Accidental Releases 112(r):** E. I. DuPont de Nemours & Co. stores and processes vinyl fluoride in excess of the 10,000 pound threshold quantity and hydrogen fluoride (at greater than 50% concentration) in excess of the 1,000 pounds threshold quantity, and therefore, is required to comply with 40 CFR 68, *Chemical Accident Prevention Provisions*, Subpart G, *Risk Management Plan* and Regulation 5.15, *Chemical Accident Prevention Provisions*. A Plan was received on September 8, 2015.

**4. Basis of Regulation Applicability**

**a. Plant-wide**

Regulations 5.00, 5.01, 5.20, 5.21, 5.22 and 5.23 (STAR Program) establishes requirements for environmental acceptability of the emission of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards.

Regulation 2.16, section 4.1.9.1 and 4.1.9.2 requires monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator is further required to maintain all the required records for a minimum of 5 years and to readily make the records available to the District upon request.

Regulation 2.16, section 4.3.5, requires that stationary sources for which a Title V permit is issued shall submit an annual compliance certification by April 15 of the following calendar year. In addition, as required by Regulation 2.16, section 4.1.9.3, the source shall submit reports at least every six months to show compliance with the permit. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement, per Regulation 2.16, section 3.5.11.

**b. Applicable Regulations**

Regulation	Title	Type
2.16	Title V Operating Permits	SIP
5.00	Standards for Toxic Air Contaminants and Hazardous	Local

<b>Regulation</b>	<b>Title</b>	<b>Type</b>
	air Pollutants, Definitions (STAR)	
5.01	General Provisions (STAR)	Local
5.02	Adoption and Incorporation by Reference of National Emissions Standards for Hazardous Air Pollutants	Local
5.14	Hazardous Air Pollutants and Source Categories	Local
5.15	Chemical Accident Prevention Provisions	Local
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant (STAR)	Local
5.21	Environmental Acceptability for Toxic Air Contaminants (STAR)	Local
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant (STAR)	Local
5.23	Categories of Toxic Air Contaminants (STAR)	Local
6.18	Solvent Metal Cleaning Equipment	SIP
6.24	Standard of Performance for Existing Sources Using Organic Materials	SIP
7.02	Adoption of Federal New Source Performance Standards	SIP
7.25	Standards of Performance for New Sources Using Volatile Organic Compounds	SIP
40 CFR 63 Subpart A	General Provisions	Federal
40 CFR 63 Subpart SS	National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or Process	Federal
40 CFR 63 Subpart FFFF	National Emission Standards for Organic Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing	Federal
40 CFR 68	Chemical Accident Prevention Provisions	Federal

c. **Basis for Applicability**

<b>Regulation</b>	<b>Basis for Applicability</b>
2.16	Title V source
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants

<b>Regulation</b>	<b>Basis for Applicability</b>
5.14	Hazardous Air Pollutants and Source Categories
5.15	Chemical Accident Prevention Provisions
5.21	Establishes the criteria for determining the environmental acceptability of emissions of toxic air contaminants.
6.18	Applies to each cold cleaners, open top vapor degreasers, and conveyORIZED degreasers that use volatile organic compounds (VOCs) to remove soluble impurities from metal surfaces.
6.24	Applies to any affected facility using any organic materials which was in being or had a construction permit issued by the District prior to the effective date of this regulation except when a specific regulation exists for the source.
7.02	Adoption of Federal New Source Performance Standards
7.25	Establishes the requirements for VOC emissions from new processes that commence construction after December 16, 1987
40 CFR 63 Subpart A	These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants.
40 CFR 63 Subpart SS	Applies when another subpart references the use of this subpart for such air emission control. Includes requirements for closed vent systems, control devices and routing of air emissions to a fuel gas system or process.
40 CFR 63 Subpart FFFF	Establishes national emission standards for hazardous air pollutants (NESHAP) for miscellaneous organic chemical manufacturing. Notification of Compliance Status submitted April 17, 2009
40 CFR 68	Chemical Accident Prevention Provisions

d. **Emission Unit U6 - VF Process**

i. **Equipment:**

<b>Emission Point</b>	<b>Description</b>	<b>Installation Date</b>	<b>Applicable Regulation</b>
<b>Unit U6000 Emission Points</b>			
CL-405	Distillation Column with Condenser (C-405) and Reboiler (BR-405)	2009	STAR, 5.15, 7.25, 40 CFR 63 Subpart FFFF
CL-406	Distillation Column with Condenser (C-406) and Reboiler (BR-406)	2009	
CL-500	Distillation Column with Condenser (C-500) and Reboiler (BR-500)	2003	STAR, 40 CFR 63 Subpart FFFF
CL-503	Distillation Column with Condenser (C-302) and Tar	2003/1962	STAR, 40 CFR 63

<b>Emission Point</b>	<b>Description</b>	<b>Installation Date</b>	<b>Applicable Regulation</b>
	Concentrator (TR-302)		Subpart FFFF
CO-410	Cooler	2008	STAR, 5.15, 7.25
CO-411	Cooler	2009	
F-416	Filter	2008	
F-419	Filter	2009	
H-405N	Heat Exchanger	2008	
H-405S	Heat Exchanger	2008	
H-406	Heat Exchanger	2008	
RE-301	Tank	1993	STAR, 40 CFR 63 Subpart FFFF
RE-401	Reactor	1964	STAR, 5.15, 6.24, 40 CFR 63 Subpart FFFF
RE-402	Reactor	2008	STAR, 5.15, 7.25, 40 CFR 63 Subpart FFFF
S-402	Separator	2008	STAR, 5.15, 7.25
T-403	Tank	2009	
TR-303	Receiver	2009	NA
TR-304	Receiver	2009	NA
TS-401	Tank	1961	STAR, 40 CFR 63 Subpart FFFF
V-301	Reactor with Condenser to Vessel with Condenser (C-303)	1994/2006	
V-402	Vaporizer	2008	STAR, 5.15, 7.25
8275CP	Compressor	2009	
<b>Unit U6001 Emission Points</b>			
CL-407	Distillation Column with Condenser (C-407) and Reboiler (BR-407)	2009	STAR, 5.15, 7.25 40 CFR 63 Subpart FFFF
CO-413 a & b	Cooler	2009	
F-409	Filter	1994	
F-410	Filter	1994	
TR-402	Tank	1964	STAR, 5.15, 6.24
TR-403	Tank	1964	
TR-404	Tank	1964	
8850CP	Compressor	2003	STAR, 5.15,

<b>Emission Point</b>	<b>Description</b>	<b>Installation Date</b>	<b>Applicable Regulation</b>
8880CP	Compressor	2009	7.25 40 CFR 63 Subpart FFFF
AB-400	Adsorbers	1962	STAR, 40 CFR 63 Subpart FFFF
AB-401	Adsorbers	1962	
<b>Unit U6002 Emission Point</b>			
C-408	VF Sphere Compressor Vent	2009	40 CFR 63 Subpart FFFF
<b>Unit U6003 Emission Point</b>			
NA	Pumps, connections, valves	N/A	STAR, 40 CFR 63 Subpart FFFF
NA	Pumps, connections, gas valves, liquid valves	N/A	

ii. **Standards/Operating Limits**

1) **VOC**

- a) Regulation 7.25 requires BACT for affected facilities at sources with a potential to emit greater than 5 tpy. The BACT submitted for emission points S-402, V-402, H-406, H-405N, H-405S, RE-402, F-416, CO-410, F-419, 8275CP, CO-411, CL-405, T-403 and CL-406 demonstrated that emissions from these sources could be controlled to no more than 3029 pounds per year. This value is set as the maximum 12-month emission limit.
- b) Regulation 7.25 establishes a plant-wide VOC limit of 5 tons per year for all affected facilities, unless Best Available Control Technology (BACT) level of control is utilized to reduce the VOC emissions.
- c) Regulation 6.24 limits the pound per hour and pound per day emission of Class III Solvents. Class III Solvent means any organic material which is not classified as a Class I or a Class II solvent. The source cannot exceed the pound per day or pound per hour limits in Regulation 6.24 for Class III solvents.

2) **HAP**

- a) 40 CFR 63, Subpart FFFF establishes HAP standards.
- b) There are no process streams in the VF Miscellaneous organic Chemical manufacturing Process Unit (MCPU) that contain organic HAPs. Therefore, the Miscellaneous Organic NESHAP (MON) leak detection and repair (LDAR) monitoring requirements do not apply to the Vinyl Fluoride process.
- c) The heat exchange systems used in the VF MCPU are all closed loop systems that use steam, water, or non-HAP brines (propylene glycol and salt solutions). Since there are no organic HAPs in the process fluids or the heat exchange systems, the heat exchange monitoring requirements do not apply.
- d) Hydrogen fluoride (HF) is the only HAP contained in wastewater streams from the VF MCPU. It is an inorganic HAP and not listed in the applicable tables, therefore the wastewater streams do not meet the definition of MON wastewater and the requirements are not applicable.

3) **TAC**

- a) Regulation 5.21 Section 4.2 lists alternative measures of demonstrating EA that will be incorporated into a permit. To meet EA goals, the owner or operator shall utilize the Main/Emergency Scrubber (SB-403) at all times that any of the process equipment is in operation.
- b) Per Regulation 5.21, the potential uncontrolled Hydrogen Fluoride (Category 2 TAC) emissions are less than the *de minimis* rate of 7.6 pounds per hour. The potential controlled Hydrogen Fluoride emissions are less than the *de minimis* rate of 6,720 pounds per year. Therefore, in order to be environmentally acceptable the control device must be operated at all times.

- c) The Main/Emergency Scrubber (SB-403) shall have a minimum control efficiency of 91.4% per the EA demonstration required by Regulation 5.21.

e. **Emission Unit IA1 – Cold Solvent Parts Cleaners**

i. **Equipment**

Emission Point	P/PE	Applicable Regulation
IA1	One (1) Non-Halogenated Cold Solvent Parts Cleaner	6.18

ii. **Standards/Operating Limits**

**VOC**

- a) Regulation 6.18 establishes standards for cold cleaner that use VOCs to remove soluble impurities from metal surfaces.
- b) The parts washers under this unit meet the definition of insignificant activities per Regulation 2.16, section 1.23. However, Regulation 6.18 applies to each cold cleaner that use VOC to remove soluble impurities from metal surfaces. These parts washers shall meet the requirements under Regulation 6.18.

**III. Other Requirements**

1. **Temporary Sources:** The source did not request to operate any temporary facilities.
2. **Short Term Activities:** The source did not report any short term activities.
3. **Emissions Trading:** N/A
4. **Operational Flexibility:** The source did not request any operational flexibility scenario in its Title V application.
5. **Compliance History:** There are no records of any violations of the terms of the present or prior construction or operating permits.
6. **Calculation Methodology or Other Approved Method:** The emission calculations for the various pieces of equipment are derived from stack test results, AP-42 emission factors, EPA guidance documents, CEMs, mass balances and engineering judgments.

Equipment	Emission Point	Control Device	Emission Factor and Determination Method
VF Reactor and Refining Equipment	6000	SB-403	Purges through the K-Jet Vent (various vessels ); Fluorination catalyst Purges, material from Analyzers and V-301 Reactor vent purging. Emissions VF Catalyst Fluorination Purge: Emissions = No. of catalyst purges [4950 lbs of HF used per purge] (evacuations/yr)*(49.51 lb HF emitted per purge) Emissions for each vessel during the maintenance of the K-Jet Vent: Emissions = (total volume ft <sup>3</sup> )(avg. density lb/ft <sup>3</sup> )(pollutant mass fraction) = lb pollutant/evacuation VF Reactor Catalyst Shutdown Purge: Emission = (lb mol vented) *(pollutant mass fraction)
VF Tank Truck Loading	6001	N/A	VF density (vap))(volume of pipe vented/trailer)(#trailers)/(2000 lb/ton = (0.2539 lb/ft <sup>3</sup> )(0.873 ft <sup>3</sup> )(#trailers)/(2000 lb/ton) 1.1x10 <sup>-4</sup> * #trailers = tons VF vented
VF Loading Compressor Vent	6002	N/A	VF Sphere Venting: Total amount vented = (hours the valve is open)(standard vent rate)(% valve is open)
Fugitive Emissions	6003	N/A	Leaks from pumps, connections, and valves multiplied by an emission factor and the % uptime Fugitive Emissions = component count * # hr/year * DuPont factor
VF Salt Furnace (Insignificant Activity)	6004	N/A	AP-42 Section 1.4 Emission Factors (Natural Gas)

**7. Insignificant Activities**

Equipment	Quantity	Regulation Basis
Fixed or mobile internal combustion engines and vehicles used for transport of passengers or freight, unless regulated elsewhere	15	Regulation 1.02, Appendix A, Section 2
Brazing, soldering or welding equipment	5	Regulation 1.02, Appendix A, Section 3.4
Equipment commonly used in wood-working operations, except for conveying, hogging or burning of sawdust or wood waste	1	Regulation 1.02, Appendix A, Section 3.5
Emergency relief vents, stacks and ventilating systems.	92	Regulation 1.02, Appendix A, Section 3.10
Blast cleaning equipment using a suspension of abrasives in water.	1	Regulation 1.02, Appendix A, Section 3.13
Soil or ground water contamination remediation projects that	1	Regulation 1.02,

Equipment	Quantity	Regulation Basis
are entirely passive or entail the total removal of the contaminated substrate for disposal in a certified landfill.		Appendix A, Section 3.20
Dust or particulate collectors that are located in-doors, vent directly indoors into the work space, collect no more than one ton of material per year.	5	Regulation 1.02, Appendix A, Section 3.21
Portable diesel or gasoline storage tanks with a maximum capacity of less than 500 gallons.	1	Regulation 1.02, Appendix A, Section 3.23
Storage vessels for VOCs with a maximum capacity of 250 gallons or less.	2	Regulation 1.02, Appendix A, Section 3.24
All pressurized VOC storage vessels. List materials stored: Various	5	Regulation 1.02, Appendix A, Section 3.26
Can Puncturing Device	1	Regulation 1.02. Section 1.38
VF Salt Furnace (Insignificant Activity)	1	Regulation 1.02 Appendix A, Section 1.38
Non-Halogenated Cold Solvent Parts Cleaners (See IA1)	1	Regulation 1.02 Appendix A, Section 3.22

- 1) Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16 section 3.5.4.1.4.
- 2) Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.
- 3) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
- 4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
- 5) The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16 section 4.3.5.3.6.
- 6) The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) to be reported on the annual emission inventory.
- 7) The District has determined pursuant to Regulation 2.16 section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.