



North Carolina Department of Environment and Natural Resources  
Division of Air Quality

Michael F. Easley, Governor

William G. Ross, Jr., Secretary  
B. Keith Overcash, P.E., Director

July 17, 2008

Michael E. Johnson  
Environmental Engineer  
DuPont Fluoroproducts  
22828 NC Highway 87 W  
Fayetteville, NC 28306


Re: DuPont Company – Fayetteville Works  
Air Quality Permit No. 03735T32  
Facility ID No. 03/09/0009  
Cumberland County

Dear Mr. Johnson:

This letter is in response to your July 1, 2008 letter regarding the issue of NSR regulated pollutants. After careful review of the regulatory analysis provided in your letter we concur with your conclusion that the NSR regulated pollutant "fluorides" is defined consistent with the definition of total fluorides contained at 40 CFR 60.191.

If you have any questions regarding this determination please feel free to contact me at (919) 715-6253 or [Donald.vandervaat@ncmail.net](mailto:Donald.vandervaat@ncmail.net).

Sincerely,



Donald R. van der Vaart, P.E.  
Chief  
Permits Section

cc: Steve Vozzo - FRO

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**Permitting Section**

1641 Mail Service Center, Raleigh, North Carolina 27699-1641  
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Phone: 919-715-6235 / FAX 919-733-5317 / Internet: [www.ncair.org](http://www.ncair.org)

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DuPont Fluoroproducts  
22828 NC Highway 87 W  
Fayetteville, NC 28306-7332

July 1, 2008

Dr. Donald R. van der Vaart, P.E.  
NCDENR – Division of Air Quality  
Permitting Section  
1641 Mail Service Center  
Raleigh, NC 27699-1641

SUBJECT: Fluorides Subject to PSD Regulations  
DuPont Company – Fayetteville Works  
Air Quality Permit No. 03735T32  
Facility ID: 03/09/00009

Dear Dr. van der Vaart:

This letter sets forth the basis of DuPont's interpretation of the extent that fluorine-containing compounds are regulated as "fluorides" under the Prevention of Significant Deterioration ("PSD") regulations. This analysis demonstrates that both fluorocarbons and fluoropolymers with organically bound, non-hydrolyzable fluorine are not "fluorides" for PSD purposes.

The Environmental Protection Agency's ("EPA") regulations for "fluorides" under New Source Review ("NSR"), Prevention of Significant Deterioration, and New Source Performance Standards ("NSPS") provide a definition as to what constitutes a "fluoride". However, the regulations were intended to apply only to inorganic fluorides since the regulatory definitions specify test methods that detect fluoride ions. This intent is confirmed in the EPA language below from EPA regulations and preambles to NSPS and NSR/PSD rules.

NSR regulations have regulated "fluorides" under PSD and Nonattainment NSR regulations since the 1980 Clean Air Act ("CAA") Amendments. The PSD significant emission rate for "fluorides" is three (3) tons per year, a low number when compared to the SO<sub>2</sub>, NO<sub>x</sub>, and VOC significant emission rates of 40 ton/year and the carbon monoxide significant emission rate of 100 tons per year. The low "fluorides" rate was established due to six NSPS regulations

promulgated in 1977 that regulated fluoride emissions from Aluminum and Phosphate Fertilizer manufacturing sources.

As part of the 1980 Amendments, EPA added a number of non-criteria pollutants such as beryllium, fluorides, lead, specific total reduced sulfur compounds, etc. to the NSR rules that were heretofore regulated under the NESHAP and NSPS rules. The CAA Amendments of 1980 basically codified a significant emission increase rate or a "*de minimis*" emission threshold for all criteria and non-criteria pollutants regulated by NSR; meaning sources emitting less than the *de minimis* level would be exempt from federal NSR permitting. The rationale for each *de minimis* threshold is contained in the Final Rule Preamble of the CAA Amendments. The basis for the three (3) tons fluorides per year threshold was based on NSPS Subpart S and a well-controlled, moderate sized aluminum plant (PSD final regulation, 45 FR 52709, August 7, 1980).

Although the 1980 NSR rules incorporated NESHAP and NSPS non-criteria pollutants, they did not include separate pollutant definitions and test methods. PSD/NSR regulations reference many definitions in other Parts of 40 CFR. The link that references the definitions under NSPS 40 CFR 60 is found in 40 CFR Part 52. Specifically, Part 52.01 states:

"All terms used in this part but not defined herein shall have the meaning given them in the Clean Air Act and in parts 51 and 60 of this chapter."

The term "regulated NSR pollutant" is defined in 40 CFR 52.21(b)(50) as meaning the following:

- (i) Any pollutant for which a national ambient air quality standard has been promulgated and any constituents or precursors for such pollutants identified by the Administrator (e.g., volatile organic compounds and NOX are precursors for ozone);
- (ii) Any pollutant that is subject to any standard promulgated under section 111 of the Act;
- (iii) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act; or
- (iv) Any pollutant that otherwise is subject to regulation under the Act; except that any or all hazardous air pollutants either listed in section 112 of the Act or added to the list pursuant to section 112(b)(2) of the Act, which have not been delisted pursuant to section 112(b)(3) of the Act, are not regulated NSR pollutants unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Act.

With regard to "fluorides", there is no national ambient air quality standard. Only those select fluorine-containing compounds listed as a Class I or Class II controlled substance in 40 CFR 82 would be "regulated NSR pollutants".

Therefore, “fluorides” are “regulated NSR pollutants” by the above definition (ii) by being subject to an NSPS under section 111 of the Clean Air Act. From the above, the NSR rules incorporate the NSPS definition of “fluorides”. All six NSPS rules regulating “fluorides” (Subparts S, T, U, V, W, and X) use the same definition of “fluorides”. The following is the “fluorides” definition of 40 CFR 60.191 (NSPS Subpart S):

*“Total fluorides means elemental fluorine and all fluoride compounds as measured by reference methods specified in §60.195 or by equivalent or alternative methods (see §60.8(b)).”*

The test methods and procedures of 40 CFR 60.195(b)(3) specify the following:

*“Methods 13A or 13B shall be used for ducts or stacks, and Method 14 for roof monitors not employing stacks or pollutant collection systems, to determine the total fluorides concentration (Cs) and volumetric flow rate (Qsd) of the effluent gas.”*

Hence, the above NSPS sections define “fluorides” as the fluorine-containing compounds that are quantified by 40 CFR Part 60 Methods 13A or 13B. The applicability (Section 1.2) of both reference test methods state that:

*“This method is applicable for the determination of fluoride (F) emissions from sources as specified in the regulations. It does not measure fluorocarbons, such as Freon.”*

Note the parenthetical “(F)” after the word “fluoride”, which indicates only inorganic ionic fluoride or hydrolyzable fluoride ion is the target analyte.

In addition, note the excerpt below from the Preamble to NSPS Subpart S standards for Aluminum plants:

*“Primary aluminum plants are a major source of fluoride air pollution. Fluoride was the only pollutant, other than criteria pollutants, specifically named as requiring Federal action in the March 1970 Report of the Secretary of Health, Education, and Welfare to the United States (91st) Congress. This report concluded that “inorganic fluorides are highly irritant and toxic gases” which, in low ambient concentrations, damage plants and animals. The U.S. Senate Committee on Public Works in its report on the Clean Air Amendments of 1970 (Senate Report No. 91-1196, September 17, 1970, p.9) included fluorides on a list of contaminants which have broad national impact and require Federal action.” (39 FR 37730, October 23, 1974)*

A further clarification was included in the 2002 NSR Reform Amendments which indicated that the Section 112 HAP list was not subject to NSR, unless by definition they are also part of another NSR category (e.g. fine particulate or VOC). This means that Hydrogen Fluoride (HF) is excluded from the “fluorides” category. The NSR reform rule promulgation preamble (67 FR 80240, 12/31/2002) states:

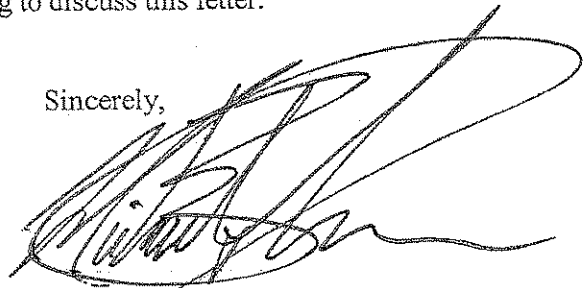
“As today's regulations provide, the following pollutants currently regulated under the Act are subject to Federal PSD review and permitting requirements.

- Fluorides (excluding hydrogen fluoride)”

In summary, based on the history of how such emissions have been regulated, “fluorides” for purposes of the three (3) tons per year NSR/PSD significant emission increase rate for major sources includes all inorganic fluoride compounds, except hydrogen fluoride (HF) which is a HAP. Therefore, emissions of organic compounds that contain fluorine atoms such as refrigerants, other fluorocarbons, and fluoropolymers, which are not measured using EPA Methods 13A or 13B, are excluded from the NSR three (3) tons per year “fluorides” significant emission increase rate threshold. For PSD purposes, the DuPont Company – Fayetteville Works will continue to consider fluorocarbons to be volatile organic compounds (VOC) unless excluded by the VOC definition of 40 CFR 51.100(s), and will continue to consider fluoropolymers to be particulate matter.

I will be contacting you shortly to schedule a meeting to discuss this letter.

Sincerely,



Michael E. Johnson  
Environmental Manager

cc: Mr. Steven F. Vozzo, NCDENR DAQ, Fayetteville Regional Office  
Mr. John Evans, NCDENR DAQ, Central Office, Raleigh  
Ms. Fern Paterson, NCDENR DAQ, Central Office, Raleigh