

Fact Sheet



For Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the original Fact Sheet corresponding with the issuance of the initial Title V operating permit issued on November 28, 2006.

Permit Number: **R30-10700001-2003**
Application Received: **November 27, 2007**
Plant Identification Number: **07300003**
Permittee: **E. I. du Pont de Nemours and Company**
Facility Name: **Washington Works**
Business Unit: **Acetal Resin Production (Part 3 of 14)**
Mailing Address: **P. O. Box 1217, Washington, WV 26181-1217**

Permit Action Number: MM03 Revised: February 5, 2008

Physical Location:	Washington, Wood County, West Virginia
UTM Coordinates:	442.3767 km Easting • 4,346.8331 km Northing • Zone 17
Directions:	Route 68 west from Parkersburg to intersection of Route 892. Continue west on Route 892 with the plant being on the north side about one mile from the intersection of Routes 68 and 892.

Facility Description

The Acetal Resin Business Unit permit (Part 3 of 14) is divided into three sections: Formaldehyde, Polymerization, and Finishing. In the Formaldehyde section, liquid methanol is vaporized and mixed with process gas (a mixture of recycle gas from the absorber and fresh air) to create formaldehyde gas. The formaldehyde gas is then fed to an absorber train where the formaldehyde is condensed and absorbed in water to produce an aqueous formaldehyde solution. The formaldehyde solution is then stored for internal consumption.

The polymerization of acetal resin homopolymer starts with the purification of the formaldehyde monomer stream. This feedstock is fed to a polymerizer. The product of the polymerizer is a homopolymer and solvent slurry mixture. The mixture produced in the polymerizer is fed to a separation device that isolates the solids and drops them into a conveyor/dryer system. The solids are then placed into a set of intermediate storage bins. The final product from the polymerization process is called fluff. This fluff material is transferred to bins for the Finishing Area. The Finishing Area converts the fluff into pelletized polymer that is delivered to customers.

In the Finishing Area the pelletized polymer is produced on five extrusion lines. These extrusion lines provide various product enhancements through the use of additives, heat, and pressure. The fluff and additives are fed directly to extruders to make blends for the production of a final product. The pelletized polymer is shipped to customers.

This minor modification incorporates changes made as a result of the issuance of Class II administrative update R13-2381C, issued on June 25, 2007, and Class I administrative update R13-2381D, issued on September 20, 2007.

Emissions Summary

This modification results in the following emission rate changes:

Pollutant	TPY
PM ₁₀	0.01
VOC	0.13
Total HAP	0.02
Formaldehyde	0.02
Methanol	0.0005

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit over 100 tons per year of criteria pollutants, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, DuPont Washington Works is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This minor modification has been found to be subject to the following applicable rules:

Federal and State: 45CSR13 Preconstruction permits for minor sources.
 45CSR30 Operating permit requirement.

State Only: None

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR15, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (if any)
R13-2617C	July 13, 2007	NA
R13-1596D	December 22, 2006	NA
R13-1849F	November 8, 2007	NA
R13-2381D	September 20, 2007	NA

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

This Title V minor modification includes the following changes:

1. **Changes approved under R13-2381C.** Class II administrative amendment R13-2381C was issued on June 25, 2007. The changes approved under R13-2381C are as follows:
 - a. The design capacity through the Capped Ribbon Blower Conveyor Loop (DTE-S) was increased in order to meet short term variations in the product flow rate to the finishing area. Emissions from DTE-S combine with several others and vent out of either emission point DQC-E or DQG-E which have a combined emission limit. The increase in throughput increased the VOC, Total HAP, and Methanol emissions from emission points DQC-E/DQG-E as follows:

Pollutant	R13-2381B		R13-2381C		Change	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM ₁₀	0.0008	0.0034	0.0008	0.0034	0	0
VOC	0.1270	0.5563	0.1322	0.5791	0.0052	0.0228
Total HAP	0.0823	0.3610	0.0862	0.3774	0.0039	0.0164
Formaldehyde	0.0820	0.3580	0.0855	0.3746	0.0035	0.0166
Methanol	0.0007	0.0028	0.0007	0.0028	0	0

- b. A third fluidizing loop similar to the "E" (DUB-S) and "K" (DUC-S) fluidizing loops was installed. The third loop is the "J" Fluidizing Loop, DUD-S, venting through emission point DUD-E. Emissions from emission point DUD-E are as follows:

Pollutant	R13-2381B		R13-2381C		Change	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM ₁₀	---	---	0.0782	0.0001	0.0782	0.0001
VOC	---	---	0.3793	0.0002	0.3793	0.0002
Total HAP	---	---	0.1707	0.0001	0.1707	0.0001
Formaldehyde	---	---	0.1707	0.0001	0.1707	0.0001

- c. Increased fluff throughput for the A & B Packout Bins (DUES and DUFFS). The A & B Packout Bins (DUES and DUFFS) vent to emission point DUKE through control device DUKC. The increased throughput increased PM₁₀, VOC, and Methanol emissions through emission point DUKE as follows:

Pollutant	R13-2381B		R13-2381C		Change	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM ₁₀	0.0039	0.0165	0.0052	0.02236	0.0013	0.00586
VOC	0.78	2.3510	0.79	2.3522	0.01	0.0012
Total HAP	0.5971	1.5510	0.5971	1.5510	0	0
Formaldehyde	0.5631	1.4020	0.5631	1.4020	0	0
Methanol	0.0003	0.001	0.0004	0.0015	0.0001	0.0005
Styrene	0.338	0.1479	0.338	0.1479	0	0

- d. Increased the amount of fluff returned back to the process through the Fluff Dumping Area (DUQ3-S). Also, a previous mistake in the VOC calculations was corrected which affected the VOC and formaldehyde emission rates. The Fluff Dumping Area (DUQ3-S) is one of the emission points that vent through DUQE. The increase in throughput of fluff returned back to the process and the emission rate correction caused by the calculation error results in the following emission rate increases for emission point DUQE:

Pollutant	R13-2381B		R13-2381C		Change	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM ₁₀	0.0025	0.0108	0.0052	0.0138	0.0027	0.003
VOC	0.0003	0.0007	0.79	0.0017	0.7897	0.001
Total HAP	0.0001	0.0004	0.5971	0.0005	0.597	0.0001
Formaldehyde	0.0001	0.0004	0.5631	0.0005	0.563	0.0001

- e. Corrected the VOC emission limits in Appendix D.2 for emission point DWV-E so that the VOC emission limits are the same as the Total HAP emission limits. Before, the VOC emission limits were less than the Total HAP emission limits which indicated an error. VOC emissions were changed from 0.0085 lb/hr and 0.0370 TPY to 0.0322 lb/hr and 0.1410 TPY.
- f. All emission limits were rounded to no more than two digits past the decimal point.
- g. For control devices DWD-P, HEW-P, HED-P, HER-P, and HFO-P, the frequency for compliance monitoring in Appendix D.1 was changed from daily to daily average.
2. **Changes approved under R13-2381D.** Class I administrative amendment R13-2381D was approved on September 20, 2007. The only change associated with R13-2381D was the addition of the Additive Preparation Equipment (DCR-S) to the Emission Units Table in Section 1.0. DCR-S has emissions of PM₁₀ and the emissions are routed through existing control device DQCC and discharge through existing emission point DQCE. The emissions from DCR-S did not result in an exceedance of the PM₁₀ emission limit established in R13-2381C for DQCE so the only change was the addition of the equipment to the Emission Units Table in Section 1.0.
3. **Addition of opacity monitoring for emission point DUD-E.** Emissions from emission point DUD-E are required by 45CSR§7-3.1 to be maintained at or below twenty percent opacity. These visible emission observations will be conducted in accordance with the monitoring requirements of 6.2.2 and records of the visible emission observations are required to be maintained under 6.4.1. Since R13-2381D did not require the permittee to conduct visible emission observations for emission point DUD-E, this requirement to conduct visible emission observations was added to 6.2.2 through 45CSR§30-5.1.c.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

None.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

All written comments should be addressed to the following individual and office:

Carrie McCumbers
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

Carrie McCumbers
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1226 • Fax: 304/926-0478

Response to Comments (Statement of Basis)

No comments were received.