

Fact Sheet



For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-10700001-2012**
Title V Application Received: **May 26, 2011**
Plant Identification Number: **10700001**
Permittee: **E. I. duPont 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**

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 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.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions Group 3 Only	2009 Actual Emissions Facility Wide
Carbon Monoxide (CO)	63.8	362.32
Nitrogen Oxides (NO _x)	48.3	727.46
Particulate Matter (PM ₁₀)	14.7	217.71
Total Particulate Matter (TSP)	14.7	217.71
Sulfur Dioxide (SO ₂)	11.3	3,163.64
Volatile Organic Compounds (VOC)	266.6	318.57
<i>PM₁₀ is a component of TSP.</i>		
Hazardous Air Pollutants	Potential Emissions Group 3 Only	2009 Actual Emissions Facility Wide
Formaldehyde	20.5	5.56
Methanol	5.0	23.17
Toluene	16.9	4.27
Hexane	1.0	0.80
Styrene	0.40	< 0.01
Benzene	< 0.01	0.08

Some of the above HAPs may be counted as PM or VOCs.

Title V Program Applicability Basis

Due to the facility-wide potential to emit over 100 tons per year of criteria pollutants, over 10 tons per year of an individual HAP, and over 25 tons per year 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 facility has been found to be subject to the following applicable rules:

Acetal Resin Production (Part 3 of 14) has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Particulate matter and opacity limits for indirect heat exchangers.
	45CSR6	Open burning prohibited.
	45CSR7	Particulate matter and opacity limits for manufacturing sources.
	45CSR10	Sulfur dioxide limits.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Preconstruction permits for minor sources.
	45CSR16	Emission Standards for New Stationary Sources Pursuant to 40 C.F.R. Part 60.
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants Pursuant to 40 C.F.R. Part 63.
	40 C.F.R. Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.
	40 C.F.R. Part 60, Subpart NNN	Standards of Performance for VOC Emissions from SOCM Distillation Operations.
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 63, Subpart F, G, H	Hazardous Organic NESHAP (HON)
	40 C.F.R. Part 63, Subpart YY	Generic MACT
	40 C.F.R. Part 63, Subpart SS	NESHAP for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or process.
	40 C.F.R. Part 63, Subpart UU	NESHAP for equipment leaks – control level 2 standards.
	40 C.F.R. Part 63, Subpart EEEE	Organic Liquid Distribution (OLD) MACT.
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.
	45CSR§§21-37 and 40	Control of VOC Emissions
	45CSR27	Best Available Technology (BAT) for TAPs

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the 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, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-1596E	March 15, 2011	
R13-1849I	October 20, 2011	
R13-2381F	March 16, 2011	
R13-2617E	November 30, 2010	

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

Miscellaneous

Updates have been made to the Permit boilerplate. Conditions 4.1.18, 4.3.2, 4.4.15, 4.5.9, 5.2.14, 5.3.15, 5.3.16, 5.4.28, and 5.5.6 have been added to the Permit. Conditions 3.7.2.c, 3.7.2.d, and 3.7.2.f have been deleted.

The following minor modifications are combined into this renewal Title V Permit:

MM06 – This modification includes the changes that have resulted from the revision of R13-2381D to R13-2381F. These changes are listed below.

MM07 – This modification includes the changes that have resulted from the revision of R13-1849G to R13-1849H. These changes are listed below.

MM08 – This modification includes the changes that have resulted from the revision of R13-1849H to R13-1849I. These changes are listed below.

R13-1596E

The most recent Title V Permit was based in part on R13-1596D. The most current version of that Permit is now R13-1596E. Conditions 4.1.3.3 and 4.1.4 were revised to only require a maximum temperature for cooling liquid for the scrubber and condenser. Previously there was an additional minimum temperature requirement. The values listed in Appendix B.1 have now been rounded to 2 decimal places.

R13-1849I

The most recent Title V Permit was based in part on R13-1849G. The most current issued version of that Permit is now R13-1849I. R13-1849J is in pre-draft form, but due to timing issues, the renewal will be issued without that version and a modification will be done after issuance. Emissions units for an alternative operating scenario: process unit shutdown have been added to Section 1.1. Emissions limits for emission points DAKE, DOME, HZZE, have changed slightly in Condition 5.1.1. In Table 5.1.7.1.a, for emission units DEB and DAL, the emission point id and control devices have been changed from DAKE and DAKC to DOME/HZZE and DOMC/HZZC, respectively. Condition 5.1.7.7 allows alternative operating scenarios in case of a process unit shutdown. This allows the facility to perform extensive maintenance without operating the Tank farm scrubber, fuels boiler, or flare.

Condition 5.1.7.7.1 requires the listed emission units to be emptied and/or isolated during the alternative operating scenario. Condition 5.1.7.7.2 gives emission limits for the listed units during the alternative operating scenario. Condition 5.1.7.7.3 requires the facility to follow 40C.F.R.63, Subpart YY startup, shutdown, malfunction provisions when implementing a process unit shutdown. Condition 5.4.27 requires the facility maintain records during alternative operating scenario events.

R13-2381F

The most recent Title V Permit was based in part on R13-2381D. The most current version of that Permit is now R13-2381F. The uncontrolled PM emissions for emission point id DTZ-E changed to 0.02 lbs/hr from 0.01 lbs/hr in Appendix D.1. Emission point DQK-E has been removed from Appendix D.2. Also in this Appendix the emission limits have changed for emission points DQN-E and DTZ-E. In the equipment table, the emission points DQK-E and DQN-E have been changed to DTZ-E. The control devices for these emission units has been changed from none to DTZ-C Bag Filter.

R13-2617E

The most recent Title V Permit was based in part on R13-2617C. The most current version of that Permit is now R13-2617E, therefore the permit requirements have been updated accordingly.

Non-Applicability Determinations

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

1. 40 C.F.R. Part 64 - Compliance Assurance Monitoring (CAM)

Group 3 is not subject for the following reasons:

40C.F.R.§64.2(a)(3) – This Group does not have a pollutant specific emissions unit that has potential pre-control device (criteria and HAP) emissions equal to or greater than 100 percent of the amount, in tons per year, of any pollutant that would require the facility to be classified as a major source.

2. Greenhouse Gas Tailoring Rule

This is a renewal Title V Permit and there have been no changes that would have triggered a PSD permit. As such, there are no applicable GHG permitting requirements.

3. 40 C.F.R. 63, Subpart FFFF (MON) Requirements

When the initial Title V Permit for the facility was written, the MON language was not finalized. Condition 6.1.6 required the facility to comply with the applicable requirements no later than May 10, 2008, and to submit a notification of compliance status report no later than 150 days after the compliance date. The permittee was supposed to submit a significant modification application at that time. As the MON requirements were updated after the initial Title V Permit and before the compliance date, the following exemption was added:

40 C.F.R. §63.2435(c)(4) Fabricating operations (such as spinning or compressing a solid polymer into its end use); compounding operations (in which blending, melting, and resolidification of a solid polymer product occur for the purpose of incorporating additives, colorants, or stabilizers); and extrusion and drawing operations (converting an already produced solid polymer into a different shape by melting or mixing the polymer and then forcing it or pulling it through an orifice to create an extruded product). An operation is not exempt if it involves processing with HAP solvent or if an intended purpose of the operation is to remove residual HAP monomer.

The Acetal resin finishing area, covered under Section 6 of this permit falls under this exemption, so this process is not subject to 40C.F.R.63, Subpart FFFF (MON) Requirements. Condition 6.1.6 has been removed from this renewal.

Request for Variances or Alternatives

None

Insignificant Activities

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

Comment Period

Beginning Date: January 25, 2012
Ending Date: February 24, 2012

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

Mike Egnor
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

Mike Egnor
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1208 • Fax: 304/926-0478

Response to Comments (Statement of Basis)

EPA comments underlined. Responses underneath.

EPA Comments from 2/28/12 email.

Question/Clarification

Is the phrase "State-Enforceable Only" which is included in numerous conditions with citations to 45CSR21 and 27 meant to mean that 45CSR21 and 27 are state-enforceable only, or that the CONDITION in the permit is state-enforceable only? These occur throughout the permit Example: Monitoring Requirements in section 3.2.

45CSR27 and 45CSR§§21-37 and 40 are State-Enforceable Only. They have not been SIP approved. That is why they are referenced that way in the permit.

Permit Shield 3.7.2.c,d, and f

Remove permit shields for 40 CFR 60, subparts Kb, VV, III. While the regulations cited in each of these conditions allow the facility to comply with the Kb, VV, and III by complying with a separate subpart, it does not mean that they are no longer subject to Kb, VV, and III. Also, the facility can choose to comply with subpart H to comply with subpart VV, but ONLY if the process unit is subject to subpart H to begin with. (See comments regarding subparts YY, VV, and H)

Conditions 3.7.2.c, 3.7.2.d, and 3.7.2.f have been removed. Overlapping 40CFR 60 Subpart Kb and 40CFR63 Subpart YY provisions are now addressed in Condition 5.1.7.2. Overlapping 40CFR 60 Subpart III and 40CFR 63 Subpart G requirements are addressed in Condition 4.1.10.

Condition 4.2.5 and 6.2.2.

Remove "normal" from the phrase "normal operation" 45CSR7 does not grant an exemption for startup/shutdowns/malfunctions.

“Normal” was removed in Conditions 4.2.5 and 6.2.2.

General Comment:

The current draft title V permit does not accurately and completely incorporate all applicable federally enforceable LDAR for the formaldehyde and polymerization units. This issue requires that several sections of the draft permit be revised, including, but not limited to:

Section 3.2 Monitoring Requirements

Section 3.3 Testing Requirements

Section 3.4 Recordkeeping Requirements

Section 3.5 Reporting Requirements

Conditions 4.1.16 and 4.1.18

Condition 4.4.14

Condition 4.5.8

Condition 5.1.7.3

Condition 5.1.14 and 5.1.15

Section 5.3. Testing Requirements

Condition 5.4.23

Condition 5.5.4

Appendix A.1

See response below under “3/1/12 email from EPA to clarify the general comments submitted on 2/18/12”.

3/1/12 email from EPA to clarify the general comments submitted on 2/28/12.

The Formaldehyde Production Area (Section 4 of the permit) is subject to the Hazardous Organic National Emission Standard for Hazardous Air Pollutants, 40 C.F.R. Part 63, Subparts F, G and H.

Pursuant to 40 C.F.R. § 63.160(c), even equipment which is subject to 40 C.F.R. Part 60, Subpart VV, but does not contain or contact the threshold amount of HAP for equipment subject to Subpart H, may comply with 40 C.F.R. Part 63, Subpart H so long as that equipment is located in the “process unit” of the Formaldehyde Production Area.

From §63.160(c): "If a process unit subject to the provisions of 40 C.F.R. 63, Subpart H has equipment to which Subpart H does not apply, but which is subject to 40 C.F.R. 60, Subpart VV, the owner or operator may elect to apply 40 C.F.R. 63, Subpart H to all such equipment in the process unit.

Therefore, DuPont may comply with the requirements of Subpart H for all equipment in the Formaldehyde Production Area which contains less than %5 HAP (equipment that is not in organic HAP service) and also contains or contacts greater than, or equal to, 10 percent VOC by weight.

It is our position that the Polymerization Area (Section 5 of the permit), is not considered a process unit subject to the provisions of 40 C.F.R 63, Subpart H, so the facility may not use the §63.160(c)

requirement to comply with VV. This means that the subpart H requirements in section 5 need to be removed and replaced with the correct VV requirements.

It is agreed that 40CFR 63 Subpart H does not apply to the Polymerization Area and that 40CFR 63 Subpart UU does not contain the same gap coverage as §63.160(c). But, the Polymerization Area was not previously subject to Subpart VV. No SOCOMI product chemicals from the list in §60.489 leave the process unit boundary for the polyacetal resin unit.

We anticipate that these changes will directly impact section 5 of the permit, but will also indirectly have an impact on other parts of the permit as well, these sections include:

Sections 3.2, 3.3, 3.4, 3.5 - Appears limited to state only enforceable requirements, or does not cite parallel federally enforceable requirements that are referenced as State-Only in each section.

These sections address the state only requirements which come from 45CSR21 and 45CSR27.

Condition 4.1.16 - Remove the sentence "Compliance with the leak detection and repair (LDAR) provisions of 40 C.F.R. 63, Subpart H shall be considered compliance with the LDAR requirements of 40 C.F.R. 60, Subpart VV."

It has been removed.

Condition 4.1.18 - Add heading in condition for Subpart VV (similar to 4.1.16), and replace wording of last sentence with "Compliance with the leak detection and repair (LDAR) provisions of 40 C.F.R. 63, Subpart H shall be considered compliance with the LDAR requirements of 40 C.F.R. 60, Subpart VV." Include statement that this unit is subject to 40 CFR 60 subpart VV.

It has been added.

Sections 4.3, 4.4, and 4.5 - Where subpart H is referenced, a separate condition should be added for subpart VV. This stand alone provision should cite the applicable requirements of VV and may note that the owner or operator may choose to comply with the analogous requirements in subpart H in lieu of the requirements of subpart VV.

They have been added as Conditions 4.3.2, 4.4.15, and 4.5.9.

Condition 5.1.7.3 - remove "The area shall perform the LDAR program as specified in 40 C.F.R. 63, Subpart UU using data previously collected using 40 C.F.R. 63, Subpart H to set inspection frequencies for the replacement method."

It has been removed.

Also change "The pertinent equipment standards include, but are not limited to"

It has been changed.

Condition 5.1.15 - Remove (see above discussion on Polymerization Plant)

Condition 5.1.15 has been removed. There are no components in Section 5 of the permit that are subject to Subpart H. Condition 5.1.14 has been removed as well. There are no components in Section 5 which are subject to 40CFR 60, Subpart VV.

Section 5 - add applicable requirements for VV for equipment that is subject to VV but not YY, also, we recommend putting the subpart UU requirements in the monitoring section.

Subpart VV is not applicable to Section 5. The monitoring frequencies have been added for Subpart UU in Condition 5.2.14.

5.3 - Add testing Requirements for YY, UU, and VV that are analogous to 4.3.

Subpart VV is not applicable to Section 5. Condition 5.3.15 has been added to address testing requirements for 40CFR 63, Subpart YY. Condition 5.3.16 has been added to address the testing requirements for 40CFR 63 Subpart UU.

Condition 5.4 - Add recordkeeping requirements for subpart YY, as well as VV.

Subpart VV is not applicable to Section 5. Condition 5.4.28 has been added to address recordkeeping requirements for 40CFR 63, Subpart YY.

Condition 5.5 - Separate and add as necessary reporting requirements for YY, SS, UU, and VV.

Subpart VV does not apply to Section 5. Condition 5.5.6 was added to address reporting requirements for 40CFR 63, Subpart YY. Reporting requirements for 40CFR 63, Subpart UU were already included in Condition 5.5.4.

Appendix A.1 - Add headings to appendix A.1, Review/correct citations in far right column, Review regulatory citations for any unit identified as "Process Plant - LDAR", reviewing citations for units listed as "VOC only", separate out by process unit if possible. Also verify that references to Acetal Production Area in attachment A is intended to list all sources in the Formaldehyde, Polymerization, and Finishing Mill.

The table from Appendix A.1 is from Permit R13-2617E. Any changes to it should be processed through the Rule 13 permitting process. The column headings which were inadvertently omitted have been added.

It is still our position that the shields in 3.7.2c, d, and f should be removed. The citations in the permit shield allow a facility to comply with overlapping requirements of two subparts by complying with one subpart, but do not provide an exemption from Kb, VV, or III, so they are still applicable and a shield cannot be provided.

These conditions have been removed.