

Commonwealth of Kentucky
Division for Air Quality
STATEMENT OF BASIS

Title V, Operating
Permit ID: V-25-037

3M Cynthiana
Cynthiana, KY 41031

February 20, 2026
Jonathon Hughes, Reviewer

SOURCE ID:	21-097-00021
AGENCY INTEREST:	1752
ACTIVITY:	APE20230001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code: 2672, Coating and Laminated Paper

Single Source Det. Yes No If Yes, Affiliated Source AI:

Source-wide Limit Yes No If Yes, See Section 4, Table A

28 Source Category Yes No If Yes, Category:

County: Harrison

Nonattainment Area N/A PM₁₀ PM_{2.5} CO NO_x SO₂ Ozone Lead

PTE* greater than 100 tpy for any criteria air pollutant Yes No

If yes, for what pollutant(s)?

PM₁₀ PM_{2.5} CO NO_x SO₂ VOC

PTE* greater than 250 tpy for any criteria air pollutant Yes No

If yes, for what pollutant(s)?

PM₁₀ PM_{2.5} CO NO_x SO₂ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) Yes No

If yes, list which pollutant(s): MIBK, Toluene, Xylene

PTE* greater than 25 tpy for combined HAP Yes No

*PTE does not include self-imposed emission limitations.

Description of Facility:

3M Company operates 3M Cynthiana (3M) that makes note pads and pressure sensitive tape by coating paper and film. The main sources of emissions are the five (5) web-coating lines and associated supporting equipment. Four (4) of the web-coating lines were constructed under the Kentucky's New Source Review (NSR) standard 401 KAR 51:017, Prevention of Significant Deterioration of air quality (PSD), and must operate according to the Best Achievable Control Technology (BACT) as determined at the time of construction for each line. The web coating lines are also regulated by Federal Regulations 40 CFR 60, Subpart RR and 40 CFR 63, Subpart JJJ; and State Regulations 401 KAR 59:210 and 401 KAR 59:212.

3M also has facility boilers, large storage tanks, a paint booth, a polypropylene extrusion line, and emergency engines which are permitted separately from the web-coating lines. The remaining equipment at 3M can either be classified as supporting equipment for the coating lines and/or as insignificant activities.

SECTION 2 – CURRENT APPLICATION

Permit Number: V-25-037

Activities: APE20230001

Received: 3/20/2023

Application Complete Date: 4/10/2023

Permit Action: Initial Renewal Significant Rev Minor Rev Administrative

Construction/Modification Requested? Yes No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action Yes No

Description of Action:

In the renewal application 3M is not requesting construction of new equipment. 3M did request to make several organizational changes to the permit, update equipment listings, and to request removal of decommissioned equipment. The following is a list of significant changes:

1. The 1R coating line has been decommissioned and has been removed from the permit.
2. 3M has requested that the Maintenance Spray Booth (EP 09 (PSB-1)) be removed from Section B of the permit and classified as a trivial activity. “Plant maintenance and upkeep activities” that are “not related to the source’s primary business activity and do not otherwise trigger a permit modification” can be considered as trivial.
3. 3M has requested that supporting activities to the coating lines be classified as insignificant activities and as such be moved from Section B to C of the permit. These activities are not part of the coating line as defined in MACT Subpart JJJJ, 401 KAR 59:210 or 401 KAR 59:212.
4. 3M requests that MACT Subpart HHHHH applicability be removed from the coating lines as it does not apply to the coating lines and applies specifically to the Solvent Compounding that is covered elsewhere in the permit.
5. Volumetric limits for clean-up solvents (MEK and IPA) at the 4R coating line have been removed. Further analysis of the origin of these limits showed that they are redundant to other BACT limits associated with the 4R line. See Section 3 for further discussion.

V-25-037 Emission Summary				
Pollutant	2024 Actual (tpy)	Previous PTE V-18-009 (tpy)	Change (tpy)	Revised PTE V-25-037 (tpy)
CO	12.8	60.2	0	60.2
NO _x	16.6	71.6	0	71.6
PT	5.96	30.9	0	30.9
PM ₁₀	5.54	30.0	0	30.0
PM _{2.5}	2.67	14.0	0	14.0
SO ₂	0.10	0.43	0	0.43
VOC	81.4	1,328	-305	1,023
Lead	0	0	0	0
Greenhouse Gases (GHGs)				
Carbon Dioxide	19888	85,943	0	85,943
Methane	0.381	1.65	0	1.65
Nitrous Oxide	0.365	1.58	0	1.59
CO ₂ Equivalent (CO ₂ e)	19998	86,453	0	86,453
Hazardous Air Pollutants (HAPs)				
Ethyl Benzene	0.251	2.31	0	2.31
Hexane	0.190	1.16	0	1.16
Methyl Isobutyl Ketone	0.092	10.3	0	10.3
Toluene	1.69	24.5	0	24.5
Xylenes (Total)	2.51	9.84	0	9.84
Combined HAPs:	4.73	48.4	0	48.4

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit #2R Coating Line				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC (controlled applicators)	95% overall control	401 KAR 51:017	Material Balance & MSDS	RTO #1, TO2 Testing
	0.05 lb VOC per lb VOC applied, or 0.04 lb VOC per lb ctg materials applied or 0.20 lb VOC per lb ctg solids applied	40 CFR 63, Subpart JJJJ	Material Balance & MSDS	RTO #1, TO2 Testing
VOC (un-controlled applicators)	0.14 kg VOC per kg ctg solids applied	401 KAR 51:017	Material Balance & MSDS	
VOC (all applicators combined)	Total VOC emissions per line 37,485.5 lbs/month (2R Line)	401 KAR 51:017	Material Balance & MSDS	RTO #1, TO2 Testing
	85% VOC control or 2.9 lb/gal VOC content of coatings	401 KAR 59:210	Material Balance & MSDS	RTO #1, TO2 Testing
	From coating: 278.1 lb/hr VOC. From Cleanup solvents: 1.14 lb/hr VOC and 4.99 tons per year (TPY)	401 KAR 51:017	Material Balance & MSDS	RTO #1, TO2 Testing
Initial Construction and Modification Date: 08/1985, 10/1994, 05/1996, 10/2010				
Process Description: Includes 3 applicators for each line.				
Applicable Regulations:				
401 KAR 51:017, <i>Prevention of significant deterioration of air quality</i>				
401 KAR 59:210, <i>New fabric, vinyl and paper surface coating operations</i>				
401 KAR 60:005 Section 2(2)(xx), <i>40 C.F.R. 60.440 through 60.447 (Subpart RR), Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations</i>				
401 KAR 63:002 Section 2(4)(ppp), <i>40 C.F.R. 63.3280 through 63.3420, Tables 1 through 2 (Subpart JJJJ), National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating</i>				
Comments:				
The 2R line is permitted to operate utilizing high solvent coating and a control device or low solvent coating and no control device. These two operating modes are listed as alternate operating scenarios in the permit, with specific emission limitations for each operating scenario.				
The 1R line was removed from the permit in V-25-037. References to the 1R line in the following paragraphs are for historical discussion.				

Emission Unit #2R Coating Line

High Solvent Coatings

The 1R and 2R lines (EP11a and 11b) were originally permitted (C-85-83) to use solvent-based coatings and control systems. BACT for the 1R and 2R lines was determined to be 90% overall control (application received 12/27/84). The MACT regulation 40 CFR 63, Subpart JJJJ requires a 95% overall control for existing sources which is more stringent than the existing BACT limitation, or the New Source Performance Standard (NSPS), 40 CFR 60, Subpart RR for the 1R and 2R lines. Demonstration of compliance with MACT will therefore demonstrate compliance with the BACT limit and the NSPS when these lines are operating in the controlled mode using the high solvent coatings.

The potential to emit for the 1R and 2R lines has also been reduced to correspond with the applicability of the MACT.

Previous PTE from BACT – based on 90% overall control

1R Line	6090 tpy * 0.1 = 609 tpy
2R Line	6090 tpy * 0.1 = 609 tpy
<u>Miscellaneous</u>	<u>59 tpy</u>
Total from BACT	1277 tpy

PTE as a result of application of MACT – based on 95% overall control

1R Line	6090 tpy * 0.05 = 304.5 tpy
2R Line	6090 tpy * 0.05 = 304.5 tpy
<u>Miscellaneous</u>	<u>59 tpy</u>
Total from BACT	668 tpy

Addition of applicators 1R-T1, 1R-T2, 2R-T1, 2R-T2, 2R-2-2, and 2R-4.

An application was received on Aug 3, 1994 for the addition of the 1R-T1 applicator. This applicator was permitted by F-94-011 with synthetic minor limitations on the raw material throughput and limitations on the VOC content of the materials that could be used.

An application was received on Jan. 26, 1996 for the addition of precoater #3 for the 2R line. This applicator was designated 2R-4. This applicator was permitted by S-96-038.

An application was received on Feb. 2, 1996 for the addition of 3 more applicators, 1R-T2, 2R-T1, and 2R-2T. These applicators were permitted by S-96-137.

An application was received on Apr. 22, 1996 for the addition of a precoater to the 2R line. This precoater was designated 2R-2-2, and it was permitted by F-96-022 with synthetic minor limitations in the form of limits on the hours of operation, and the maximum line speed. This applicator was never installed.

Low Solvent Coatings

An application was received Feb. 24, 1998 for a modification to the existing 1R and 2R lines (EP11a and 11b). With this action all previous permits for the 1R and 2R coating lines including the permits issued for the various individual applicators were subsumed under the new permit, F-98-019. The modification of the coating lines consisted of substitution of low VOC materials and running the lines un-controlled. Potential emissions from the uncontrolled operation were calculated to be 512.6 tons per year (tpy), an increase of 140.3 tpy over previous years average actual. This required another BACT analysis which was completed in Jan. 1998. BACT for the new operating scenario was determined to be an emission limit of 0.14 lbs VOC / lb coating solids applied as calculated on a weighted average basis for one calendar month for both the 1R and 2R lines when using the low solvent coatings. The BACT limit is more stringent than the NSPS

Emission Unit #2R Coating Line

regulation 40 CFR 60, Subpart RR (0.2 lbs VOC / lb coating solids), or the MACT regulation 40 CFR 63, Subpart JJJJ (0.2 lbs HAP / lb coating solids). Therefore, compliance with the MACT and NSPS is demonstrated when the source is in compliance with the uncontrolled BACT limitation when these lines are operating in the uncontrolled mode using low solvent coatings.

The Division updated ATTACHMENT A - ADVANCE MINOR NEW SOURCE REVIEW in the renewal permit V-25-037 based on updates to 40 CFR 63, Subpart JJJJ.

401 KAR 59:225, *New miscellaneous metal parts and products surface coating operations*, does not apply to the coating line. The coating line was constructed before the effective date and is therefore exempt from the current version of this regulation.

401 KAR 63:002 Section 2(4)(aa), *40 C.F.R. 63.820 through 63.831, Table 1, and Appendix A (Subpart KK), National Emission Standards for the Printing and Publishing Industry*, does not apply. Subpart KK provides an exemption when the mass of materials used on the designated printing stations is less than 5% of the total mass of material used on the coating line. The coating lines at 3M all meet this exemption.

401 KAR 63:002 Section 2(4)(rrr), *40 C.F.R. 63.3880 through 63.3981, Tables 1 through 4, and Appendix A (Subpart MMMM), National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products*, does not apply to the paint spray booth. This subpart does not apply to surface coating or a coating operation that is part of janitorial, building, and facility maintenance operations.

40 CFR Part 64 – Compliance Assurance Monitoring does not apply. For the 2R line the limiting regulation when utilizing a control system is a post November 1990 regulation, 40 CFR 63, Subpart JJJJ which is exempt per 40 CFR 64.2 (b)(1)(i).

Emission Unit #3R Coating Line				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC (all applicators combined)	51.5 tpy, 12 month rolling total	401 KAR 51:017	Material Balance & MSDS	RTO #1, TO2 Testing
	85% VOC control or 2.9 lb/gal VOC content of coatings	401 KAR 59:210	Material Balance & MSDS	RTO #1, TO2 Testing
	0.019 kg VOC per kg of ctg solids	401 KAR 51:017	Material Balance & MSDS	RTO #1, TO2 Testing
<p>Initial Construction and Modification Date: 06/1989, 10/2001</p> <p>Process Description: See comments</p> <p>Applicable Regulations: 401 KAR 51:017, <i>Prevention of significant deterioration of air quality</i> 401 KAR 59:210, <i>New fabric, vinyl and paper surface coating operations</i> 401 KAR 60:005 Section 2(2)(xx), <i>40 C.F.R. 60.440 through 60.447 (Subpart RR), Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations</i> 401 KAR 63:002 Section 2(4)(ppp), <i>40 C.F.R. 63.3280 through 63.3420, Tables 1 through 2 (Subpart JJJJ), National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating</i></p> <p>Comments: The 3R line was initially permitted for construction by permit C-89-052. Potential emissions were 219 tpy following application of a BACT emission limitation of 0.019 lbs VOC / lb coating solids. With the addition of equipment to the 3R line in 2001, 3M elected to take a Synthetic Minor limit. The synthetic minor limit was established based on the average actual emissions of the 3R line for the two previous years, 1999 and 2000 plus an additional allowance for the new equipment.</p> <p style="text-align: center;">15.5 tpy (average actual) + 36 tpy (minor modification) = 51.5 tpy</p> <p>This overall emission limitation of 51.5 tpy and the 0.019 (lbs VOC / lb coating solids) from the original BACT analysis are now the emission limitations for the 3R line. The existing BACT limit is more stringent than the NSPS, 40 CFR 60, Subpart RR (0.2 lbs VOC / lb coating solids), or the MACT, 40 CFR 63, Subpart JJJJ (0.2 lbs HAP / lb coating solids), therefore compliance with the MACT and NSPS is demonstrated when the source is in compliance with BACT.</p> <p>Refer to comments under 2R line for update to Attachment A in the permit.</p> <p>401 KAR 59:225, <i>New miscellaneous metal parts and products surface coating operations</i>, does not apply to the coating line. The coating line was constructed before the effective date and is therefore exempt from the current version of this regulation.</p>				

Emission Unit #3R Coating Line

401 KAR 63:002 Section 2(4)(aa), 40 C.F.R. 63.820 through 63.831, Table 1, and Appendix A (Subpart KK), *National Emission Standards for the Printing and Publishing Industry*, does not apply. Subpart KK provides an exemption when the mass of materials used on the designated printing stations is less than 5% of the total mass of material used on the coating line. The coating lines at 3M all meet this exemption.

401 KAR 63:002 Section 2(4)(rrr), 40 C.F.R. 63.3880 to 63.3981, Tables 1 through 4, and Appendix A (Subpart MMMM), *National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products*, does not apply to the paint spray booth. This subpart does not apply to surface coating or a coating operation that is part of janitorial, building, and facility maintenance operations.

40 CFR Part 64 – Compliance Assurance Monitoring does not apply. For the 3R line the limiting regulation when utilizing a control system is a post November 1990 regulation, 40 CFR 63, Subpart JJJJ which is exempt per 40 CFR 64.2 (b)(1)(i).

Emission Unit #4R Coating Line				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC (all applicators combined)	98% overall control or 0.08 kg VOC per kg ctg solids	401 KAR 51:017	Material Balance & MSDS	Monitoring/Recordkeeping Requirements
	85% VOC control or 2.9 lb/gal VOC content of coatings	401 KAR 59:210	Material Balance & MSDS	Monitoring/Recordkeeping Requirements
Initial Construction and Modification Date: 07/1991, 01/2004				
Process Description: The 4R line is permitted to operate utilizing high solvent coatings and a control device or low solvent coatings and no control device				
Applicable Regulations:				
401 KAR 51:017, <i>Prevention of significant deterioration of air quality</i>				
401 KAR 59:210, <i>New fabric, vinyl and paper surface coating operations</i>				
401 KAR 60:005 Section 2(2)(xx), 40 C.F.R. 60.440 through 60.447 (Subpart RR), <i>Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations</i>				
401 KAR 63:002 Section 2(4)(ppp), 40 C.F.R. 63.3280 through 63.3420, <i>Tables 1 through 2 (Subpart JJJJ), National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating</i>				
Comments:				
The 4R line is permitted to operate utilizing high solvent coatings and a control device or low solvent coatings and no control device. These two operating modes are listed as alternate operating scenarios in the permit, with specific emission limitations for each operating scenario.				
Refer to comments under 2R line for update to Attachment A in the permit.				
High Solvent Coatings				
The 4R line was originally permitted in 1991 (C-91-056) and underwent BACT analysis at that time (application received April 9, 1991). BACT for the 4R line was determined to be 98% overall control. In July 1997 an application was received to increase production on the 4R line. The increased production was considered a major modification and a new BACT analysis was submitted along with the application. BACT for the modification was determined to be 98% overall control. In addition to the overall control requirement 3M proposed additional BACT limitations on VOC emissions of 2,115 lb/day and 386 tpy. However the potential emissions calculated in the new BACT analysis was based only on emissions from the coating line, and did not include the supporting equipment that underwent BACT and was originally permitted with the 4R coaters. This oversight was corrected in permit F-98-003 with the emission limit set at 64,664 lbs/month, (approx. 2,126 lb/day or 388 tpy).				
The 4R-PC1 applicator was replaced in January 2004. The new applicator uses water-based coatings and utilizes no control other than the low solvent coatings. Potential emissions from the replacement applicator result in a net decrease of the potential VOC emissions from the 4R line by 58.6 tpy making this replacement a minor modification under PSD. In the application for the modification the source proposed to meet the				

Emission Unit #4R Coating Line

existing 1997 BACT emission limitation of 98% overall control for the entire 4R line. The source also requested a decrease in allowable emissions for the entire 4R line corresponding to the decrease in emissions from the 4R-PC1 applicator. Emission limits for the 4R line were then 98% overall control as before, cleanup solvent usage limits of 620 gallons Methyl Ethyl Ketone (MEK) and 360 gallons Isopropyl Alcohol (IPA) per year, and a maximum VOC emission limit of 329 tpy, based on a twelve (12) month rolling total. The existing BACT limitation of 98% overall control is more stringent than the NSPS regulation 40 CFR 60, Subpart RR (90% overall control), or the MACT regulation 40 CFR 63, Subpart JJJJ (95% overall control). Therefore compliance with the MACT and NSPS is demonstrated when the source is in compliance with the BACT limitation. The solvent usage rate limits have been retained (**See below discussion for removal in V-25-037**), but the 329 tpy VOC emission limitation has been subsumed by the source wide VOC emission limitation of 249 tpy.

Low Solvent Coatings

On August 29, 2011, 3M submitted an application to operate the 4R line using low solvent coatings, no control device, and a proposed emission limitation of 0.08 kg VOC / kg coating solids. Additional information was provided on October 17, 2011 and May 7, 2012. Potential emissions determined by the actual-to-projected actual test showed that this was a minor modification under PSD so no BACT analysis was required. The new emission limit is more stringent than the NSPS regulation or the MACT regulation. Therefore, compliance with the MACT and NSPS is demonstrated when the source is in compliance with the uncontrolled emission limitation.

Clean-Up Solvent Volumetric Limits Evaluation (V-25-037)

Calculations in the 1997 application of the VOC potential to emit for all portions of the 4R coating line that sum to the 388 tons per year indicated in the above paragraphs include the clean-up solvents. The clean-up solvents were already accounted for in the 388 tons per year limit and separate volumetric limits are redundant (later changed to 329 tons per year with a 2004 applicator replacement and then removed in the V-13-009 permit issued 7/16/2013 as the source-wide synthetic minor limit of 249 tons per year was lower). What remains of the BACT for the 4R line is a requirement of either 98% overall control for VOC or a limit of 0.08 lb VOC per lb coating solids applied. As long as the facility meets these limits and the source-wide 249 tpy limit the facility is complying with all relevant requirements (to include BACT, NESHAP JJJJ, NSPS RR) and is not otherwise limited in quantity or type of clean-up solvent used at the 4R line.

401 KAR 59:225, *New miscellaneous metal parts and products surface coating operations*, does not apply to the coating line. The coating line was constructed before the effective date and is therefore exempt from the current version of this regulation.

401 KAR 63:002 Section 2(4)(aa), *40 C.F.R. 63.820 through 63.831, Table 1, and Appendix A (Subpart KK), National Emission Standards for the Printing and Publishing Industry*, is not applicable. Subpart KK provides an exemption when the mass of materials used on the designated printing stations is less than 5% of the total mass of material used on the coating line. The coating lines at 3M all meet this exemption.

401 KAR 63:002 Section 2(4)(rrr), *40 C.F.R. 63.3880 through 63.3981, Tables 1 through 4, and Appendix A (Subpart MMMM), National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products*, is not applicable to the paint spray booth. This subpart does not apply to surface coating or a coating operation that is part of janitorial, building, and facility maintenance operations.

40 CFR Part 64 – Compliance Assurance Monitoring does not apply. The 4R line utilizes continuous emissions monitoring which is exempt per 40 CFR 64.2 (b)(1)(vi).

Emission Unit #5R Coating Line				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC (all applicators combined)	0.14 kg VOC per kg ctg solids	401 KAR 51:017	Material Balance & MSDS	Monitoring/Recordkeeping Requirements
	200 tpy, 12 mo. rolling total	401 KAR 51:017	Material Balance & MSDS	Monitoring/Recordkeeping Requirements
	Volatile portion \geq 75% v/v water and \leq 25% v/v organic solvent OR \geq 60% v/v nonvolatile material (excluding water) as applied to substrate OR \leq 0.5 lb VOC/lb solids as delivered to the applicator.	401 KAR 59:212	Material Balance & MSDS	Monitoring/Recordkeeping Requirements

Initial Construction and Modification Date: 10/1998

Process Description:

The 5R line has two (2) printing stations.

Applicable Regulations:

401 KAR 51:017, *Prevention of significant deterioration of air quality*

401 KAR 59:212, *New graphic arts facilities using rotogravure and flexography*

401 KAR 60:005 Section 2(2)(xx), *40 C.F.R. 60.440 through 60.447 (Subpart RR), Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations*

401 KAR 63:002 Section 2(4)(ppp), *40 C.F.R. 63.3280 through 63.3420, Tables 1 through 2 (Subpart JJJJ), National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating*

Comments:

The 5R line was permitted in 1998 to use low solvent coating with an emission limit of 0.14 kg VOC / kg coating solids and an additional limitation of 200 tpy as a rolling twelve (12) month total. The BACT limit of 0.14 kg VOC / kg coating solids is more stringent than the NSPS or MACT limitations, therefore compliance with the MACT and NSPS is demonstrated when the source is in compliance with the uncontrolled emission limitation.

The 5R line has two (2) printing stations. Per 401 KAR 59:210, Section 1, (4)(j), An affected facility which is capable of performing both paper coating and paper printing shall be considered as performing a paper printing operation subject to 401 KAR 59:212. Therefore the 5R line is subject to the requirements of 401 KAR 59:212 instead of 401 KAR 59:210. Since the 5R line is uncontrolled, the permittee must meet one of the exemptions of 401 KAR 59:212, Section 6 to show compliance with this regulation.

Refer to comments under 2R line for update to Attachment A in the permit.

401 KAR 59:225, *New miscellaneous metal parts and products surface coating operations*, does not apply to the coating line because the coated substrate is non-metallic.

401 KAR 63:002 Section 2(4)(aa), *40 C.F.R. 63.820 through 63.831, Table 1, and Appendix A (Subpart*

Emission Unit #5R Coating Line

KK, *National Emission Standards for the Printing and Publishing Industry*, does not apply. Subpart *KK* provides an exemption when the mass of materials used on the designated printing stations is less than 5% of the total mass of material used on the coating line. The coating lines at 3M all meet this exemption.

401 KAR 63:002 Section 2(4)(rrr), 40 C.F.R. 63.3880 through 63.3981, Tables 1 through 4, and Appendix A (Subpart *MMMM*), *National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products*, is not applicable to the paint spray booth. This subpart does not apply to surface coating or a coating operation that is part of janitorial, building, and facility maintenance operations.

40 CFR Part 64 – Compliance Assurance Monitoring does not apply since the 5R line is uncontrolled.

Emission Unit #6R Coating Line				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC (all applicators combined)	0.05 lb VOC per lb VOC applied, or 0.04 lb VOC per lb ctg materials applied or 0.20 lb VOC per lb ctg solids applied	40 CFR 63, Subpart JJJJ	Material Balance & MSDS	Monitoring/Recordkeeping Requirements
	Volatile portion \geq 75% v/v water and \leq 25% v/v organic solvent OR \geq 60% v/v nonvolatile material (excluding water) as applied to substrate OR \leq 0.5 lb VOC/lb solids as delivered to the applicator.	401 KAR 59:212	Material Balance & MSDS	Monitoring/Recordkeeping Requirements

Initial Construction Date: 11/2010

Process Description:

See comments

Applicable Regulations:

401 KAR 59:212, *New graphic arts facilities using rotogravure and flexography*

401 KAR 60:005 Section 2(2)(xx), *40 C.F.R. 60.440 through 60.447 (Subpart RR), Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations*

401 KAR 63:002 Section 2(4)(ppp), *40 C.F.R. 63.3280 through 63.3420, Tables 1 through 2 (Subpart JJJJ), National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating*

Comments:

The 6R Line will use only low solvent coatings and inks. None of the workstations are controlled. The 6R line was permitted as a minor source with respect to PSD.

The 6R line has printing stations therefore it is subject to the requirements of 401 KAR 59:212. Since the 6R line is uncontrolled, the permittee must meet one of the exemptions of 401 KAR 59:212, Section 6 to show compliance with this regulation.

Potential VOC input to the 6R Line is below 50 tpy which exempts this line from the emission limits of 40 CFR 60, Subpart RR.

Refer to comments under 2R line for update to Attachment A in the permit.

401 KAR 59:225, *New miscellaneous metal parts and products surface coating operations*, does not apply to the coating line because the coated substrate is non-metallic.

401 KAR 63:002 Section 2(4)(aa), *40 C.F.R. 63.820 through 63.831, Table 1, and Appendix A (Subpart KK), National Emission Standards for the Printing and Publishing Industry*, does not apply. Subpart KK provides an exemption when the mass of materials used on the designated printing stations is less than 5% of the total mass of material used on the coating line. The coating lines at 3M all meet this exemption.

401 KAR 63:002 Section 2(4)(rrr), *40 C.F.R. 63.3880 through 63.3981, Tables 1 through 4, and Appendix A (Subpart MMMM), National Emission Standards for Hazardous Air Pollutants for Surface Coating of*

Emission Unit #6R Coating Line

Miscellaneous Metal Parts and Products, does not apply to the paint spray booth. This subpart does not apply to surface coating or a coating operation that is part of janitorial, building, and facility maintenance operations.

40 CFR Part 64 – Compliance Assurance Monitoring does not apply. The 6R line is uncontrolled and potential emissions are below major source thresholds.

Emission Unit #154 Primer Mix Tank (Room 154)				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
HAPs	0.05 kg HAP per kg product	40 CFR 63, Subpart HHHHH	Material Balance & MSDS	Method 311, Method 24
<p>Initial Construction Date: 11/2010</p> <p>Process Description: Primer mix tank is located in room 154 and is used to create water-based products.</p> <p>Applicable Regulations: 401 KAR 63:002 Section 2(4)(mmmm), 40 C.F.R. 63.7980 through 63.8105, Tables 1 through 10 (Subpart HHHHH), National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing.</p> <p>Comments: Applicable to coatings that are produced and shipped offsite.</p>				

Emission Unit #08 & #21 Boilers				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	0.45 lb/MMBtu (EU 08) 0.40 lb/MMBtu (EU 21)	401 KAR 59:015, Section 4(1)(c)	AP-42 Chapter 1.4, 7.6 lb/MMBtu	Assumed based upon natural gas combustion
	20% opacity	401 KAR 59:015, Section 4(2)	N/A	Assumed based upon natural gas combustion
SO ₂	2.06 lbs/MMBtu (EU 08) 1.67 lbs/MMBtu (EU 21)	401 KAR 59:015, Section 5(1)	AP-42 Chapter 1.4, 0.6 lb/MMBtu	Assumed based upon natural gas combustion
<p>Initial Construction Date: 04/1985 (EU 08), 06/1989 (EU 21)</p> <p>Process Description: EU 08: Two (2) Cleaver Brooks, Indirect Heat Exchangers, Natural Gas Fired, 12.5 MMBtu/hr each. EU 21: One (1) Kewanee Indirect Heat Exchanger, Natural Gas Fired, 16.74 MMBtu/hr.</p> <p>Applicable Regulations:</p> <p>401 KAR 59:015, New indirect heat exchangers, applicable to indirect heat exchangers having a heat input capacity greater than one (1) million BTU per hour (MMBtu/hr) commenced on or after April 9, 1972 (401 KAR 59:015, Section 2(1)).</p> <p>401 KAR 63:002 Section 2(4)(iii), <i>40 C.F.R. 63.7480 through 63.7575, Tables 1 through 13 (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.</i></p> <p>Non-applicable Regulation:</p> <p>401 KAR 60:005 Section 2(2)(d), <i>40 C.F.R. 60.40c through 60.48c (Subpart Dc), Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units</i>, is not applicable since the boilers were installed before June 9, 1989.</p> <p>Comments:</p> <p>EU 08 emission limits calculated with the original permit issuance, EU 21 was installed a few years later and its emission limits are based on both EU 08 and EU 21 heat input capacity.</p>				

Emission Unit #32 Boiler				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	0.34 lb/MMBtu	401 KAR 59:015, Section 4(1)(c)	AP-42 Chapter 1.4, 7.6 lb/MMBtu	Assumed based upon natural gas combustion
Opacity	20% opacity	401 KAR 59:015, Section 4(2)	N/A	Assumed based upon natural gas combustion
SO ₂	1.27 lbs/MMBtu	401 KAR 59:015, Section 5(1)	AP-42 Chapter 1.4, 0.6 lb/MMBtu	Assumed based upon natural gas combustion
Initial Construction Date: 07/1991				
Process Description: Tampella Indirect Heat Exchanger, 39.04 MMBtu/hr.				
Applicable Regulations:				
<p>401 KAR 59:015, New indirect heat exchangers, applicable to indirect heat exchangers having a heat input capacity greater than one (1) million BTU per hour (MMBtu/hr) commenced on or after April 9, 1972 (401 KAR 59:015, Section 2(1)).</p> <p>401 KAR 63:002 Section 2(4)(iii), <i>40 C.F.R. 63.7480 through 63.7575, Tables 1 through 13 (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.</i></p> <p>401 KAR 60:005 Section 2(2)(d), <i>40 C.F.R. 60.40c through 60.48c (Subpart Dc), Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units</i>, is applicable since the boiler was installed after June 9, 1989.</p>				
Comments:				
EU 32 was installed after EU 08 and EU 21 and its emission limits are based on the total of all 3 boilers heat input capacity.				

Emission Unit #15J Polypropylene Extrusion and Resin Recycling				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC	Source wide 249 tpy	To preclude 401 KAR 51:017	Material Balance & MSDS	Recordkeeping
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & MSDS	Material Balance
<p>Initial Construction Date: 1985</p> <p>Process Description: Extrusion and resin recycling operation.</p> <p>Applicable Regulations: 401 KAR 59:010, New process operations 401 KAR 63:020, Potentially Hazardous Matter and Toxic Substance Emissions</p> <p>Comments: Some parts of this line are listed as insignificant activities in the permit.</p>				

HAP Storage Tanks, T3, TR1, CTR				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC	Source wide 249 tpy	To preclude 401 KAR 51:017	Material Balance & MSDS	Recordkeeping
<p>Initial Construction Date: 1985</p> <p>Process Description: Tanks store HAP materials.</p> <p>Applicable Regulations: 401 KAR 63:002 Section 2(4)(kkk), 40 C.F.R. 63.2330 through 63.2406, Tables 1 through 12 (Subpart EEEE), National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)</p> <p>Comments: 40 CFR 63, Subpart EEEE – Is applicable to this source, but there are no applicable requirements associated with the affected facilities from this regulation other than the initial notification requirements and the semiannual compliance report.</p>				

Maintenance Spray Booth (Trivial Activity)

Initial Construction Date: 11/1985

Process Description: Devilbiss Spray Paint Booth for facility maintenance operations.

Applicable Regulations:
None

Comments:

0.25 gal/hr max continuous rating, 90% control, dry filters. Reclassified as a Trivial Activity with V-25-037 at the request of 3M. "Plant maintenance and upkeep activities" that are "not related to the source's primary business activity and do not otherwise trigger a permit modification" can be considered as trivial.

Emergency Engines

Initial Construction Date: 02/1985

Process Description: **One (1) Diesel Generator- Backup and
One (1) Diesel Fire Pumphouse Engine**

Applicable Regulation:

401 KAR 63:002 Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ), National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

Comments:

Maximum Fuel Consumption: 14.8 gallons per hour each

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements/Results

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
2R	TO2	VOC DRE	401 KAR 51:017	Every 5 years	Method 25A	85%	99.7%	N/A	CMN20130006	11/5/2013
1R, 2R, 4R, 5R		VOC CE	NA	NA	Method 204	NA	99.73%	N/A	CMN20130006	11/5/2013
3R		VOC CE	NA	NA	Method 204	NA	98.72%	N/A	CMN20130006	11/5/2013
1R, 3R, 4R	RTO #1	VOC DRE	401 KAR 51:017	Every 5 years	Method 25A	85%	98.0%	Combustion Temperature 1523 °F	CMN20140001	1/9/2014
1R, 3R, 4R	RTO #1	VOC DRE	401 KAR 51:017	Every 5 years	Method 25A	85%	99.2%	Combustion Temperature 1535 °F	CMN20150002	11/10/2015
2R	TO2	VOC DRE	401 KAR 51:017	Every 5 years	Method 25A	85%	99.8%	Combustion Temperature 1350°F	CMN20180002	9/11/2018
1R, 3R, 4R	RTO #1	VOC DRE	401 KAR 51:017	Every 5 years	Method 25A	85%	99.6%	Combustion Temperature 1524 °F	CMN20180002	9/11/2018
3R, 4R	RTO #1	VOC DRE	401 KAR 51:017	Every 5 years	Method 25A	85%	99.47%	Combustion Temperature 1554 °F	CMN20230002	8/9/2023
2R	TO2	VOC DRE	401 KAR 51:017	Every 5 years	Method 25A	85%	99.76%	Combustion Temperature 1356 °F	CMN20230002	8/9/2023

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
2R, 4R		VOC CE	NA	NA	Method 204	NA	99.36%	NA	CMN20230002	8/9/2023
3R Lab		VOC CE	NA	NA	Method 204	NA	97.8%	NA	CMN20230002	8/9/2023

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
249 tpy VOC	To preclude the applicability of NSR under 401 KAR 51:017, <i>Prevention of significant deterioration of air quality</i>	Source-wide
37,485.5 lb/month VOC	BACT limit (Pursuant to 401 KAR 51:017)	2R Line
278.1 lbs/hr VOC (combined total of listed emission units)	BACT limit (Pursuant to 401 KAR 51:017)	2R1, 2R2, 2R3
1.14 lbs/hr and 4.99 tpy VOC from cleanup solvent (combined total of listed emission units)	BACT limit (Pursuant to 401 KAR 51:017)	2R1, 2R2, 2R3
51.5 tpy VOC	BACT limit (Pursuant to 401 KAR 51:017)	3R Line
200 tpy VOC	BACT limit (Pursuant to 401 KAR 51:017)	5R Line

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 51:017 , Prevention of significant deterioration of air quality	2R, 3R, 4R, 5R
401 KAR 59:010 , New process operations	15J
401 KAR 59:015 , New indirect heat exchangers	08, 21, 32
401 KAR 59:185 , New solvent metal cleaning equipment	
401 KAR 59:210 , New fabric, vinyl and paper surface coating operations.	2R, 3R, 4R
401 KAR 59:212 , New graphic arts facilities using rotogravure and flexography.	5R, 6R
401 KAR 60:005 Section 2(2)(d) 40 C.F.R. 60.40c through 60.48c (Subpart Dc), Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	32
401 KAR 60:005 Section 2(2)(xx) 40 C.F.R. 60.440 through 60.447 (Subpart RR), Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations	2R, 3R, 4R, 5R, 6R
401 KAR 63:002 Section 2(4)(kkk) 40 C.F.R. 63.2330 through 63.2406, Tables 1 through 12 (Subpart EEEE), National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline	T3, TR1, CTR

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS (CONTINUED)

Applicable Regulations	Emission Unit
401 KAR 63:002 Section 2(4)(ppp) 40 C.F.R. 63.3280 through 63.3420, Tables 1 through 2 (Subpart JJJJ), National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating	2R, 3R, 4R, 5R, 6R
401 KAR 63:002 Section 2(4)(eee) 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ), National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.	40
401 KAR 63:002, Section 2(4)(iii) 40 C.F.R. 63.7480 through 63.7575, Tables 1 through 13 (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	08, 21, 32
401 KAR 63:002 Section 2(4)(mmmm) 40 C.F.R. 63.7980 through 63.8105, Tables 1 through 10 (Subpart HHHHH), National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing	
401 KAR 63:020 , Potentially hazardous matter or toxic substances	04, 05

Table C - Summary of Precluded Regulations:

None

Table D - Summary of Non Applicable Regulations:

None

Air Toxic Analysis

401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances

The Division for Air Quality (Division) has performed SCREEN View on December 22, 2025 of potentially hazardous matter or toxic substances (Methyl Isobutyl Ketone) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

Single Source Determination

N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit Type	Activity #	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
C-84-181	Initial	na	9/21/1984	10/22/1984	Initial Construction Permit for Line 1R and 2R	PSD
C-85-83	Revision	na	3/4/1985	7/30/1985	Add support equipment	na
C-86-104	Revision	na	3/4/1986	6/5/1986	Add support equipment	na
C-89-052	Revision	na	2/27/1989	5/25/1989	Add 3R line	NSR/PSD
C-91-056	Revision	na	4/17/1991	7/10/1991	Add 4R line	PSD
S-96-033	Revision	na	2/6/1995	2/12/1996	Add support equipment	na
S-96-038	Revision	na	1/29/1996	2/9/1996	Modify 2R-4	na
S-96-137	Revision	na	3/7/1996	3/27/1996	Modify 1R2, 2R1, 2R2 applicators	na
F-98-003	Revision	na	11/5/1997	2/12/1998	Modify 4R line	na
F-98-019	Revision	na	5/6/1998	8/3/1998	Modify 1R and 2R lines	na
F-98-026	Revision	na	8/14/1998	10/2/1998	Add 5R line	na
V-06-015	Initial	APE20040001	2/1/2000	11/22/2006	Initial Title V Permit	na
V-06-015 R1	Revision	APE20040001	na	3/29/2007	Minor revision to clarify 40 cfr 63 subpart JJJJ	na
V-06-015 R2	Revision	APE20080001	4/17/2008	5/1/2008	Administrative amend, typographical errors	na
V-06-015 R3	Revision	APE20090001	3/10/2009	5/8/2009	Administrative amend, typographical errors	na
V-06-015 R4	Revision	APE20100002	11/21/2010	6/21/2011	Revised equipment lists. Added cobra line, Applicator 1R1 changed	na
V-13-009	Renewal	APE20110002	12/14/2011	7/16/2013	Add 249 tpy source-wide limit, add flexible air permitting as attachment "A"	Syn Minor
V-13-009 R1	Revision	APE20140002	3/4/2014	5/12/2014	Addition of Extruders	na
V-13-009 R2	Revision	APE20150002	10/12/2015	10/16/2015	Admin Amend, Add requirements of 40 CFR 63 HHHHH	na
V-18-009	Renewal	APE20180001	3/6/2018	9/22/2018	Renewal Permit	na

SECTION 6 – PERMIT APPLICATION HISTORY

N/A

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS	– Ambient Air Quality Standards
BACT	– Best Available Control Technology
Btu	– British thermal unit
CAM	– Compliance Assurance Monitoring
CO	– Carbon Monoxide
Division	– Kentucky Division for Air Quality
ESP	– Electrostatic Precipitator
GHG	– Greenhouse Gas
HAP	– Hazardous Air Pollutant
HF	– Hydrogen Fluoride (Gaseous)
MSDS	– Material Safety Data Sheets
mmHg	– Millimeter of mercury column height
NAAQS	– National Ambient Air Quality Standards
NESHAP	– National Emissions Standards for Hazardous Air Pollutants
NO _x	– Nitrogen Oxides
PM	– Particulate Matter
PM ₁₀	– Particulate Matter equal to or smaller than 10 micrometers
PM _{2.5}	– Particulate Matter equal to or smaller than 2.5 micrometers
PSD	– Prevention of Significant Deterioration
PTE	– Potential to Emit
SO ₂	– Sulfur Dioxide
TF	– Total Fluoride (Particulate & Gaseous)
VOC	– Volatile Organic Compounds