

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
**ACTIVITY REPORT: On-site Inspection**

A622055430

<b>FACILITY:</b> Intertape Polymer Group		<b>SRN / ID:</b> A6220
<b>LOCATION:</b> 317 Kendall Avenue, MARYSVILLE		<b>DISTRICT:</b> Warren
<b>CITY:</b> MARYSVILLE		<b>COUNTY:</b> SAINT CLAIR
<b>CONTACT:</b>		<b>ACTIVITY DATE:</b> 09/01/2020
<b>STAFF:</b> Iranna Konanahalli	<b>COMPLIANCE STATUS:</b> Non Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> FY 2020 ROP CMS scheduled inspection of Intertape Polymer Group (IPG)		
<b>RESOLVED COMPLAINTS:</b>		

**Intertape Polymer Group (A6220)**  
**317 Kendall St.**  
**Marysville, MI 48040-1911**

**ROP: MI-ROP-A6220-2015a.** Effective date: January 12, 2015. Revision date: August 31, 2016. Administratively Complete ROP Renewal Application Due Between July 12, 2018 and July 12, 2019. About July 12, 2019, AQD received an application for the ROP renewal.

**Subject to: Major Source Paper and other Web Coating NESHAP / MACT JJJJ / MACT 4J: 40 CFR, Part 63, Subpart JJJJ—National Emission Standards for Hazardous Air Pollutants for Paper and Other Webcoating, Page 72330, Federal Register / Vol. 67, No. 233 / Wednesday, December 4, 2002 / Rules and Regulations / Final Rule.** The paper and other web coatings source category emits HAPs; in Intertape's case toluene. These facilities produce items such as pressure-sensitive tapes and labels, flexible packaging, photographic film, coated vinyl, wall coverings, sandpaper and other abrasives, paperboard boxes, vinyl flooring, industrial and decorative laminates, etc. Intertape produces pressure-sensitive tapes. Recently started shipping adhesive materials to other facilities and hence Intertape became also subject to NESHAP / MACT 5H.

**Subject to: Major Source Miscellaneous Coating Manufacturing NESHAP / MACT HHHHH / MACT 5H. 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing (MCM); Final Rule, Page 69164 Federal Register / Vol. 68, No. 238 / Thursday, December 11, 2003 / Rules and Regulations.** The final rule establishes emission limits and work practice requirements for new and existing miscellaneous coating manufacturing operations, including process vessels, storage tanks, wastewater, transfer operations, equipment leaks, and heat exchange systems. Residual risk and technology review (RTR) for the Miscellaneous Coating Manufacturing (MCM) source category: Page 49724 Federal Register / Vol. 85, No. 158 / Friday, August 14, 2020 / Rules and Regulations / Final rule. EUWETMIX&WHIP-OP are subject to the regulations and are now equipped with two condensers (2 Shell [chilled water] & Tube [VOC, predominantly toluene] HE).

**Not subject to: National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T; NESHAP/ MACT T); Correction; 29484 Federal Register / Vol. 60, No. 107 / Monday, June 5, 1995 / Rules and Regulations; amended National Air Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T); Final Rule; Page 25138**

Federal Register / Vol. 72, No. 85 / Thursday, May 3, 2007 / Rules and Regulations. Intertape does NOT use the MACT T listed halogenated HAP solvents (>5%w: methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5), and chloroform (CAS No. 67-66-3)) in the cold-cleaners.

**CO:** AQD settled Rule 901 odor violation from tape coating lines, especially curing ovens, via an Administrative Consent Oder AQD No. 10-1997. About January 1998, Intertape (then American Tape Company), per the CO, installed Reversative Thermal Oxidizer (RTO) for the neighborhood odor nuisance control. The CO requires operation of RTO at minimum 1400 F (alternatively, minimum 95% destruction of VOC at an alternative temperature) for cure zone emissions. Settlement = \$60,000.00.

**CO:** AQD settled the violation of NESHAP / MCM MACT 5H for Miscellaneous Coating Manufacturing (MCM) via an Administrative Consent Oder AQD No. 2020-2014, executed by AQD Director Mary Ann Dolehanty on September 10, 2020. Per the CO, Intertape has already installed two (2) condensers (Shell & Tube Heat Exchangers with chilled water on Shell side and HAP laden exhaust gases on Tube side). Minimum 75% solvent recovery requirement is still under review. Operating temperature of each condenser is to be determined using vapor-liquid equilibrium principles assuming saturated toluene exhaust at the operating temperature. Intertape is required to submit NESHAP / MACT 5H Notification of Compliance Status (NCS) with 60 days of testing to determine operating temperature. The test may be based upon the equilibrium vapor calculations. The CO contains "Force Majeure" clause. Settlement = \$42,500.

Coating Line No. 2: Of Coating Line Nos. 1 thru 4, Line No. 2 has been removed. Hence there are currently only 3 coating lines: Coating Line Nos. 1, 3 & 4. In addition, there is one Pilot Coating Line (PTI No. 423-78).

**Subject to Rule 610 (4.79 pounds per gallon of solids applied, based on a 24-hour averaging period):** AQD issued PTI No. 104-80 to then Armak Company as it became subject to Reasonably Available Control Technology (RACT) standard (Rule 610) effective January 18, 1980. In response, IPG proposed installation of a vapor phase, carbon adsorption solvent recovery system (SRS) to recover toluene solvent emitted by the primary coating lines. The SRS controls portions of the three primary web coating lines as follows: EUCOATINGLINE1, B Unit Hood and B Unit Ovens; EUCOATINGLINE3, A, B, C Unit Hoods and Dryers 2, 3, 4; and EUCOATINGLINE4, B Unit Hood and B Unit Ovens. Each coating line consists of a basecoat applicator, a release coat applicator, a topcoat applicator and various drying (or curing) ovens. Emissions from the web coating lines are primarily volatile organic compounds (VOCs), with the primary VOC being Toluene, which is a hazardous air pollutant (HAP). There are four (4) carbon bed columns. Saturated carbon is stripped and solvent is recovered using steam from a dedicated boiler. SRS Recovery Efficiency (RE) is calculated via liquid-liquid mass balance. RTO burns off rest of VOC for odor control, where it is not economical to recover solvent via adsorption.

**Not subject to: NSPS RR, 40 CFR, Part 60, Subpart RR—Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations,** Page 48375, Federal Register / Vol. 48, No. 202 / Tuesday, October 18, 1983. The subpart applies to each coating line used in the manufacture of pressure sensitive tape and label materials. NSPS

RR applies if construction, modification, or reconstruction occurs after December 30, 1980. Intertape installed its coating lines (3) before the applicability date (1961). NSPS RR limit is 0.20 kg VOC/kg of coating solids applied as calculated on a weighted average basis for one calendar month.

**Subject to Major Source Boiler MACT 5D: Annual Tune-up or Pentennial / Quinquennial (1/5Yr) Tune-up if boiler is equipped with oxygen trim system, one time Energy Assessment (EA) or ISO 50001): Major Source Boiler NESHAP / MACT 5D, 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, Page 7138, Federal Register / Vol. 78, No. 21 / Thursday, January 31, 2013 / Rules and Regulations / Final rule; notice of final action on reconsideration.** The December 23, 2011 proposed rule addressed specific issues and provisions the EPA identified for reconsideration. This summary of the final rule reflects the changes to 40 CFR, Part 63, subpart DDDDD (March 21, 2011 Final Rule) in regards to those provisions identified for reconsideration and on other discrete matters identified in response to comments or data received during the comment period. Intertape's natural gas only boilers are NOT equipped with Oxygen Trim Systems. An Oxygen Trim System is system of monitors that is used to maintain excess air (EA) at the desired level in a combustion device. A typical system consists of a flue gas analyzer for oxygen (O<sub>2</sub>) and / or carbon monoxide (CO) and a feedback signal to the combustion controller. In other words, an Oxygen Trim System is designed to continuously measure and maintain optimum air-to-fuel ratio in the combustion zone. If such system exists, annual tune-up is not required; however, pentennial / quinquennial (1/5Yr) tune-up is required. Intertape does not follow ISO 50001, Energy Management System for continuous improvement of energy performance, energy efficiency, energy consumption and for reduction of energy use, energy costs, greenhouse gas emissions (GHG), etc. If ISO 50001 is followed properly, one-time energy assessment (EA) is not required. The boiler is not equipped with oxygen trim system and annual tune-up (max 13 months).

**Intertape's one (1) emergency generator (FG-RICEMACT) are subject to: CI RICE MACT 4Z, Major Source NESHAP / MACT ZZZZ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines and National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines / Final rule (Page 3568, Federal Register / Vol. 73, No. 13 / Friday, January 18, 2008 / Rules and Regulations / Final rule).**

**Emergency generator is subject to (73 FR 3591, January 18, 2008, 76 FR 37972 June 28, 2011, 78 FR 6697 January 30, 2013): NSPS 4J, 40 CFR, Part 60, Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (natural gas fired Spark Ignition).** The provisions of NSPS 4J are applicable to owners and operators and manufacturers. Owners or operators of Emergency SI RICE are subject to this NSPS 4J if engine is manufactured after January 1, 2009, emergency engines greater than 19 kW (25 HP) engine power. KOHLER 100REZGD 118 kW (158 HP).

On September 01, 2020, I conducted a level-2 **ROP CMS scheduled FY 2020 inspection** of Intertape Polymer Group ("Intertape" or "IPG" ) located at 317 Kendall Avenue, Marysville, Michigan. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and

Environmental Protection Act, 1994, PA 451; Michigan Department of Environment, Great Lakes and Energy, Air Quality Division (EGLE-AQD) administrative rules; and ROP.

During the inspection, Mr. Rodney (R.J.) Maier (Phone: 810-941-6382; Cell: 810-363-5935; E-mail: rMaier@itape.com), EHS Manager. Mr. Robert Harvey (Phone: 517-268-0043; E-mail: Rob.Harvey@ImpactCandT.com), Services Director, Impact Compliance & Testing, was also present.

About July 2020, Ms. Melissa Oakley (Phone: 810-941-6382; E-mail: mOakley@iTape.com) separated.

Intertape manufactures pressure sensitive adhesive tape products. The process of manufacturing adhesive tape involves preparation and application of an adhesive coating and a release coating to the paper or film backing of the tape, and drying/curing the tape. The adhesive manufacturing steps are batch operations while the coating application and drying operations are continuous operations. The web tape manufacturing consists of three primary web coating lines controlled by a vapor-phase carbon adsorption solvent recovery system and a regenerative thermal oxidizer; a pilot web coating line and R&D web coating line controlled by the regenerative thermal oxidizer; a dry stock mixing area controlled by two fabric filter collectors; additionally, there are a research and development spray booth; cold cleaners; and other affiliated process operations onsite.

The primary emission units at the facility include 3 pressure sensitive tape adhesive coating lines (EU-COATINGLINE1, EU-COATINGLINE3, EU-COATINGLINE4), one pilot line (EU-PILOT-LINE), and associated adhesive wet mix and WHIP processes (EU-WETMIX&WHIP-OP) that form FG-COATINGLINES flexible group. Intertape operates two air pollution control devices to control VOC on portions of the adhesive coating lines, namely, a vapor phase Carbon Adsorption Solvent Recovery System (SRS) and a Regenerative Thermal Oxidizer (RTO). Also, the facility operates a dry ingredient Mixer (EU-COMPOUNDING) controlled by two baghouses (North and South), two 20,000 gal underground solvent storage tanks (FG-STORAGETANKS), several parts washers (soak tanks) (FG-COLDCLEANERS), a permit to install exempt paint booth (FG-RULE287), and a tote cleaning process.

While coating lines are not subject to NSPS RR, the lines are subject to RACT SIP Rule 610.

The following are Emission Units (EUs):

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date/ Modification Date</b>	<b>Flexible Group ID</b>
EUCOMPOUNDING	Dry Stock Compounding Process - elastomers (natural or synthetic rubber) are mixed in a Banbury mixer with dry powder fillers to produce various dry stocks. Emissions are controlled by two fabric	07/15/1994	NA

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU COATING LINE 1	filter collectors (baghouses) – each 2800 cfm. Web coating machine, applicators, and associated drying and curing ovens. Emissions are controlled by solvent recovery unit and thermal oxidizer.	07/30/1980	FG-COATINGPROCESS
EU COATING LINE 3	Web coating machine, applicators, and associated drying and curing ovens. Emissions are controlled by solvent recovery unit and thermal oxidizer.	07/30/1980	FG-COATINGPROCESS
EU COATING LINE 4	Web coating machine, applicators, and associated drying and curing ovens. Emissions are controlled by solvent recovery unit and thermal oxidizer.	07/30/1980	FG-COATINGPROCESS
EU PILOT-LINE	Coating machine and oven used to pilot test new adhesive applications. Thermal Oxidizer is the current control technology as of March 1998.	01/1/1979	FG-COATINGPROCESS
EU WET MIX & WHIP-OP	Adhesive and coating preparations-mixing and blending of ingredients prior to application, mixing for viscosity adjustment, additive blending, cleaning of preparation equipment and coating line parts, handling, storage and transfer of coatings and solvents.	07/30/1980	FG-COATINGPROCESS
EU-BOILER MACT	Existing boiler or process heater in the units with design capacity greater than 10 MMbtu per hour to burn gas 1 fuels subcategory.	NA	FG-BOILERMACT
EU SRS BOILER	700 HP (30 MMBTU/HR) boiler for Solvent Recovery System (SRS), Installed in 1981.	1981	FG-BOILERMACT
EU GENERATOR	Generac 2000-Natural gas fired Emergency Generator, 200KW, (Model # 3617910100, Type # SG200, Engine G13.3, Installed in 2000, used to power office building equipment.	2000	FG-RICEMACT
EU RICEMACT	Natural gas fired, stationary, less than 500 BHP, emergency, reciprocating	NA	FG-RICEMACT

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EUSTORAGETANK1	internal combustion engine, exempt from permit to install requirements pursuant to R336.1285(g). Underground storage tank (20,000 gallons capacity) containing recovered solvent from the carbon adsorption system.	01/1/1982	FGSTORAGETANKS
EUSTORAGETANK2	Underground storage tank (20,000 gallons capacity) containing recovered solvent from the carbon adsorption system.	01/1/1982	FGSTORAGETANKS
EURDPILOT-LINE	Includes adhesive preparation (Mixing/blending) and a small web coating machine. Used for R&D activities.	10/28/2013	FG-RULE290
EURULE290	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290.	NA	FG-RULE290
EUR&DPAINTBOOTH EUR287CPAINTBOOTH	R&D Paint Spray Booth Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 287(c).	01/1/1992	FGRULE287(c)
		NA	FGRULE287(c)
EUCOLDCLEANER	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r) (iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.	NA	FGCOLDCLEANERS
EUCOLDCLEANER1	Immersion cold cleaner with covers and drains used to clean metal parts for maintenance purposes. The air/vapor interface of the cleaners is less than 10 square feet. Only non-halogenated solvents are used.	01/1/1994	FGCOLDCLEANERS
EUCOLDCLEANER2	Immersion cold cleaner with covers and drains used to clean metal parts for maintenance purposes. The air/vapor interface of the	01/1/1994	FGCOLDCLEANERS

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date/ Modification Date</b>	<b>Flexible Group ID</b>
EUCOLDCLEANER3	cleaners is less than 10 square feet. Only non-halogenated solvents are used. Immersion cold cleaner with covers and drains used to clean metal parts for maintenance purposes. The air/vapor interface of the cleaners is less than 10 square feet. Only non-halogenated solvents are used.	01/1/1994	FGCOLDCLEANERS
EUCOLDCLEANER4	Immersion cold cleaner with covers and drains used to clean metal parts for maintenance purposes. The air/vapor interface of the cleaners is less than 10 square feet. Only non-halogenated solvents are used.	01/1/1994	FGCOLDCLEANERS
EUCOLDCLEANER5	Immersion cold cleaner with covers and drains used to clean metal parts for maintenance purposes. The air/vapor interface of the cleaners is less than 10 square feet. Only non-halogenated solvents are used.	01/1/1994	FGCOLDCLEANERS

### **MI-PTI-A6220-2015a, EU-COMPOUNDING**

Dry Stock Compounding Process - Elastomers (natural or synthetic rubber) are mixed in a Banbury mixer with dry powder fillers to produce various dry stocks. Emissions are controlled by two fabric filter collectors (2 baghouses: North and South) – each baghouse has an exhaust flow rate of 2,800 cfm.

Intertape logs pressure drop information: 1/15 minutes (MI-PTI-A6220-2015a, EU-COMPOUNDING, III). The baghouses are installed and operated properly and, equipped with pressure gauge as well . Annual preventive maintenance (PM) is yet to be conducted in 2020.

The Flexible Groups (FGs) are as follows:

<b>Flexible Group ID</b>	<b>Flexible Group Description</b>	<b>Associated Emission Unit IDs</b>
FG-COATINGPROCESS	Three primary adhesive tape manufacturing web coating lines and one pilot web coating line. Collectively these lines comprise the affected source that is subject to the Printing and Other Web Coating (POWC) MACT standard.	EUWETMIX&WHIP-OP EUPILOT-LINE EUCOATINGLINE1 EUCOATINGLINE3 EUCOATINGLINE4

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-BOILERMACT	Affiliated operations such as wet mix and whip operations are included. Existing boiler or process heater in the units with design capacity greater than 10 MMBtu per hour to burn gas 1 fuels subcategory.	EUSRBOILER, EUBOILERMACT
FG-RICEMACT	Existing, Natural gas fired, stationary, less than 500 BHP, emergency, reciprocating internal combustion engine (RICE), exempt from permit to install requirements pursuant to R 336.1285(g), located at a major source of HAP emissions, subject to 40 CFR 63, Subpart ZZZZ-National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.	EUGENERATOR EU-RICEMACT
FG-STORAGETANKS	Two underground storage tanks used to contain recovered solvent from the carbon adsorption system. Tanks are 20,000 gallons each.	EUSTORAGETANK1 EUSTORAGETANK2
FG-RULE290	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290.	EURULE290 EURDPILOT-LINE
FG-RULE287(c)	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 287(c).	EUR&DPAINTBOOTH EU287CPAINTBOOTH
FG-COLDCLEANERS	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285 (r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.	EUCOLDCLEANER EUCOLDCLEANER1, EUCOLDCLEANER2, EUCOLDCLEANER3, EUCOLDCLEANER4, EUCOLDCLEANER5

### **MI-ROP-A6220-2015a, FG-COATINGPROCESS (EUWETMIX&WHIP-OP, EUPILOT-LINE, EUCOATINGLINE1, EUCOATINGLINE3, EUCOATINGLINE4)**

There are three (3: Line1, Line3 & Line3; Line2 has been removed) primary adhesive tape manufacturing web coating lines and one pilot web coating line. Collectively these lines comprise the affected source that is subject to the Printing and Other Web Coating (POWC) MACT 4J standard. Affiliated operations such as wet mix and whip operations are included. VOC and HAPs (predominantly or rather almost exclusively, toluene) emissions controlled by Regenerative Thermal Oxidizer (RTO) and activated carbon adsorption Solvent Recovery System (SRS). Also, Mix (Mix #6) and Churn (Churn #6, holding tank with an agitator) Tanks (each has its own dedicated condenser) are subject to MACT 5H (Miscellaneous Coating Manufacturing [MCM] effective when Intertape started selling adhesive coatings as adhesive chemical (< 10% business).

There are three web coating lines (Nos. 1, 3 & 4: non-identical lines) consisting of water-based release coating and solvent (principally toluene) based adhesive coating. While initial



portion of flash-off and curing is controlled by SRS, later curing and drying portions, where it is NOT economical to recover solvents, are controlled by RTO (operating at, usually, 1500-1600°F > 1400°F) for odor control purposes. SRS consists of four (4) adsorption columns, one condensate tank (25% toluene and rest water upon steam stripping and condensing from the adsorber) and one decanter tank (where toluene (SG = 0.865) and water (SG = 1.0) are gravity-separated). Each Adsorption Column operates on a time cycle: 60 minutes adsorption and 30 minutes steam stripping. It is possible during some time all four units under adsorption cycle. Three flow meters are present: Nos. 1 & 2 for two solvent streams No. 3 for total solvent (recovered and reused) flow.

#### FG-COATINGPROCESS, I.1-4

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	CY 2019
1. VOC <sup>(A)</sup>	4.79 pounds per gallon of coating solids applied <sup>2</sup>	24-hour averaging period	EU COATING LINE 1, EU COATING LINE 3, EU COATING LINE 4, EU PILOT-LINE	< 1
2. VOC	32.87 pounds per hour <sup>2</sup>	Testing Method	EU PILOT-LINE	
3. VOC	65.74 tons per year <sup>2</sup>	12-month rolling time period as determined at the end of calendar month	EU PILOT-LINE	0.03
4a. Organic HAP <sup>a</sup>	No more than 20% of the mass of coating solids applied; or	Each Month	EU COATING LINE 1, EU COATING LINE 3, EU COATING LINE 4, EU PILOT-LINE	
4b. Organic HAP <sup>b</sup>	No more than 5% of the organic HAP applied (95% reduction); or	Each month	EU COATING LINE 1, EU COATING LINE 3, EU COATING LINE 4, EU PILOT-LINE	About 97-99% > 95% solvent recovery plus RTO for odor abatement
4c. Organic HAP <sup>b</sup>	No more than 4% of the mass of coating materials applied; or	Each month	EU COATING LINE 1, EU COATING LINE 3, EU COATING LINE 4, EU PILOT-LINE	
4d. Organic HAP <sup>c</sup>	Outlet organic HAP concentration no greater than 20 ppmv and capture system efficiency 100%	Testing Method	EU COATING LINE 1, EU COATING LINE 3, EU COATING LINE 4, EU PILOT-LINE	

<sup>a</sup>This limit is equivalent to using a coating comprised of not more than 2.9 pounds of VOC per gallon of coating (minus water) as applied, with a VOC density of 7.36 pounds per gallon, and with a mass transfer efficiency of 100 percent.

<sup>b</sup>The permittee shall limit organic HAP emissions to the level specified in SC I.4a, I.4b, I.4c, or I.4d.

<sup>c</sup>The outlet organic HAP concentration is determined on a dry basis.

#### FG-COATINGPROCESS, II: No material limits.

### FG-COATINGPROCESS, III.1-4

The coating lines' cure zones of ovens are always exhausted to the RTO operating at > 1400 °F (usually, 1500-1600°F). When RTO < 1400 °F, Intertape identified the time durations as web coating lines non-operational (e.g., August 8-9, 2020) (MI-ROP-A6220-2015a, FG-COATINGPROCESS, III.1&2: exhaust to RTO and 3-4: RTO T > 1400 °F and CE ≈100%).

### FG-COATINGPROCESS, IV.1-2

RTO & SRS are installed and operating properly (MI-ROP-A6220-2015a, FG-COATINGPROCESS, IV.1-2). About 97-99% > 95% of solvent is recovered (Recovery Efficiency RE) based upon solvent recovery records, except occasional RE ≈ 90%. Static pressures are monitored to ensure near 100% capture. RTO operates at > 1400 °F (usually, 1500-1600°F). Liquid-liquid (solvent recovered and used) mass balance is used as capture monitoring. Based upon the 2017 stack test operation temperature must be > 1,444°F

### FG-COATINGPROCESS, V.1-4

Derenzo Environmental Services (DES) ( Robert Harvey, Andy Rusnak, Tyler Wilson, Daniel Wilson, Blake Beddow, and Tom Andrews) of Livonia conducted VOC sampling during April 25-27 and May 1-3, 2017 to determine Destruction Efficiency (DE) of RTO, Capture Efficiencies of an RTO associated with three (3) large coating lines one smaller pilot coating line. AQD received the test report dated June 20, 2017, entitled "AIR EMISSION TEST REPORT FOR THE VERIFICATION OF VOC/HAP CAPTURE AND DESTRUCTION EFFICIENCY FOR ADHESIVE COATING LINES". As a major source of HAP emissions, the coating lines are subject to the NESHAP for Paper and Other Web Coating (POWC MACT, 40 CFR Part 63 Subpart JJJJ). The average measured VOC/HAP destruction efficiency for the three test periods is **98.1%** by weight, which is greater than (in compliance with) the minimum required destruction efficiency of 95%. The RTO combustion chamber temperature was recorded throughout each test period and the three-hour average combustion chamber for the test event is **1,444°F**. Provisions of the POWC MACT specify that the average combustion temperature for any 3-hour period must not fall below the average combustion temperature established during the most recent compliance test.

#### Summary of RTO VOC/HAP destruction efficiency test results

- Destruction Efficiency DE = 98.1% > 95.0% at 1,444 °F (3-hour average)

#### Summary of coating line VOC/HAP capture efficiency test results

Emission Unit	Captured to SRS (%wt)	Captured to RTO (%wt)	Overall Capture Efficiency (%wt)	Comment
EUCOATINGLINE1	95.9%	3.0%	98.9%	
EUCOATINGLINE3 <sup>θ</sup>	99.4%	3.0%	102.4%	>100%!
EUCOATINGLINE4	80.2%	15.9%	96.0%	

EUPILOT-LINE <sup>β</sup>	NA <sup>μ</sup>	10.2%	10.2%	
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<sup>θ</sup> The average measured capture efficiency for coating line No. 3 is greater than 100%. The data set satisfies the DQO, therefore, the demonstration is acceptable and an overall capture efficiency of 100% will be used in the facility's emission recordkeeping.

<sup>β</sup> Average of the three test periods. The pilot line capture efficiency data set does not satisfy the DQO, therefore, the lower confidence limit (LCL) was calculated for the data set. A problem with the exhaust damper was discovered after the test, which has since been corrected. See Section 6.0 of the 2017 test report for more information.

<sup>μ</sup> The pilot line is not connected to the carbon adsorption SRS.

Solvent laden air (SLA) from the following points is collected and directed to the RTO for emission reduction:

1. A and C ovens on Coating Line 1 (EUCOATINGLINE1)
2. Dryer 5 on Coating Line 3 (EUCOATINGLINE3)
3. A and C ovens on Coating Line 4 (EUCOATINGLINE4)
4. The coater hood and both ovens on the Pilot Line (EUPILOT-LINE).

US EPA Reference Method 25A, *Determination of Total Gaseous Organic Concentration Using A Flame Ionization Detector*, was used.

#### FG-COATINGPROCESS, VI.1-28

Exhaust gases of all coating lines are always ducted to SRS for solvent recovery and RTO for odor control with SRS RE > 95% and RTO operating at 1500-1600°F > 1,444 °F (DE = 98.1% per 2017 stack test) > 1,400°F (FG-COATINGPROCESS, III.3), usage composition records are kept, the required calculations are performed, temperature and pressure monitoring is performed, etc. (MI-ROP-A6220-2015a, FG-COATINGPROCESS, 1-28)

Solvents purchased(MI-ROP-A6220-2015a, FG-COATINGPROCESS, 23):

1. Isopropanol (CAS # 67-63-0) 99% (6.55 lbs/gallon) = 7,500 gallons = 48,633.75 pounds
2. Toluene (CAS # 108-88-3) (7.25 lbs/gallon) = 348, 599 gallons = 2,534,314.73 pounds

#### CY 2019 Production:

Toluene based adhesive = 23,617,559 lbs.  
 IPA based adhesive = 72,383 lbs.  
 Water based adhesive = 76,351 lbs.

MAPs for Solvent Recovery System (SRS) Regenerative Thermal Oxidizer (RTO) as revised September 2, 2020, is present. Intertape installed a carbon adsorption solvent

recovery system (SRS) in 1982 to recover toluene, the primary constituent of the coatings. The solvent recovery system includes four (4) 43,000-pound carbon adsorption beds operating in parallel. As of March 1998, IPG operates a regenerative thermal oxidizer (RTO) for controlling adhesive coating emissions and odor from its production operations. IPG principally installed the RTO emission control system to reduce emissions and control odors from the cure zone oven exhaust stacks (C1 and C2 ovens on Lines 1 and 4, and Line 3 Dryer 5 Zones 1 through 4) to resolve the odor complaints. IPG volunteered to tie in the A-Unit Oven exhausts from Lines 1 and 4 and the Exit Hood from Line 1 following the C-Oven to further reduce odor and facility emissions. IPG tested the performance of the RTO in 2017 and determined that its destruction efficiency exceeds 98%.

#### MI-ROP-A6220-2015a FG-BOILERMACT

Existing boiler or process heater in the units with design capacity greater than 10 MMbtu per hour to burn gas 1 fuels subcategory.

Fuels Subcategory:

*Unit designed to burn gas 1 subcategory* includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition. Gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply interruptions of any duration are also included in this definition.

**Boiler MACT 5D Notification of initial startup:** Intertape submitted the notification dated May 7, 2019. As part of its toluene solvent recovery system (SRS) IPG operates a boiler that provides steam for the thermal desorption of captured solvents in its activated carbon adsorbers. In 2018, the existing SRS boiler experienced a mechanical failure and was ultimately replaced with a new boiler that commenced operation on April 29, 2019. A temporary boiler, that had been in operation following the failure of the existing boiler, has been shut down and is scheduled to be removed from the site. Mr. Brian Newman, Operations Manager, signed the notification.

As the boiler commenced operation on April 29, 2019, the first annual tune-up is required 13 months from this initial startup (MI-ROP-A6220-2015a FG-BOILERMACT, VI.1)

#### MI-ROP-A6220-2015a FG-RICEMACT (EUGENERATOR)

Existing, Natural gas fired, stationary, less than 500 BHP, emergency, reciprocating internal combustion engine (RICE), exempt from permit to install requirements pursuant to R336.1285(g), located at a major source of HAP emissions, subject to 40 CFR 63, Subpart ZZZZ-National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

In 2018 IPG replaced its existing emergency generator (EUGENERATOR) with a new natural gas fired emergency generator. The new unit is a KOHLER Model 100REZGD rated at 158 (<500) HP. Subject to NSPS SI RICE 4J and US EPA certified.

KOHLER 100REZGD 118 kW (158 HP) is a certified engine (Power Solutions International, Inc., 201 Mittel Drive, Wood Dale, IL 60191):

US EPA Certificate Number: JPSIB5.70EMT-006 for engine family JPSIB5.70EMT (Issue Date: 07/19/2017, Effective Date: 07/19/2017, Expiration Date: 12/31/2018)

Hours meter reading= 64 hours (11/17/2020)

MI-PTI-A6220-2015a, FG-RULE 287(c) (EUR&DPAINTBOOTH, EUR287CPAINTBOOTH)

Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 287(2)(c).

The booths (2) are used, hardly, for testing purposes. The tape is applied to a metal or non-metal panel and the coatings / paints are sprayed to test the effectiveness of masking tape. Less than 1 pound of paint per year is used (2017 = 0.4, 2018 = 0.13, 2019 = 0.79, 2020-YTD-AUG = 0.28 pound per paint per year)

MI-PTI-A6220-2015a, FG-COLDCLEANERS

7 cold-cleaners are present: 1 Safety-Kleen Model 44 Solvent Vat Parts Washer (32 Gallons) in Maintenance Shop, 4 JUSTRITE / Model # 27220 (22 Gallons), JUSTRITE / Model # 27110 (11 Gallons) in Pilot Building for R&D, 1 Tote Wash Stand (50 Gallons). All parts washers use Toluene except Maintenance Shop parts washer, which uses naphtha. Intertape follows the work practice rules for prevention of solvent evaporation.

### **NESHAP / MACT HHHHH / MACT 5H**

1. ACO Paragraph 9.A (completed 11/09/2020): Predominant use determination was for MACT 4J (Web Coating). Therefore, the tanks are exempt from MACT 5H.
  
1. ACO 9.B. – Pre-compliance report (completed 09/02/2020): The pre-compliance report submitted by Intertape Marysville
  
1. ACO 9.C. – Compliance Report (by April 30, 2021)
  
1. ACO 9.D. – Semi-Annual Compliance Report (by June 30, 2021)
  
1. ACO 9.E. – Recordkeeping: Started to maintain records as specified in 40 CFR 63.8080.

1. ACO 9.F. – Label the whip tank, mix tank, and churn tank: Intertape has identified Mix Tank #6, Churn Tank #6 and labeled them. Each tank (2) is equipped with a condenser.
  
1. ACO 10.A.– Equip the whip tank with a cover that must be in place when a HAP is present (completed 08/20/2020): Intertape Marysville installed a cover on the whip mixer that covers the process vessels when in use at the mixer per Table 1 of Subpart HHHHH.
  
1. ACO 10.B. – Equip Mixer #6 and Churn #6 with a cover that must be in place when a HAP is present (Completed September 10, 2020 – effective date of ACO)
  
1. ACO 10.C. – Equip Mixer #6 and Churn #6 with a condenser (Completed August 06, 2020): One condenser was installed on each of Mixer #6 and Churn #6 to achieve the specified control of toluene emissions in Subpart HHHHH..
  
1. ACO 10.D. – Reduce emissions of organic HAP by 75% (Completed August 06, 2020) : Upon installation of the condensers the reduction in exhaust temperature achieved the desired control of organic HAP emissions based on the design of the units. Per Subpart HHHHH the toluene in the tank has a vapor pressure less than 0.6 kPa during processing and therefore a reduction of toluene emissions of at least 75% must be achieved.
  
1. ACO 10.E. – Provide an update on the pre-compliance report parameters(Completed August 13, 2020) : Intertape submitted the report as required by 10.E verifying the operating parameters identified in the pre-compliance report and providing calibration certificates for monitoring equipment installed at the facility.
  
1. ACO 11.A. – Test Protocol (Completed September 21, 2020): Intertape provided the final test protocol on September 21, 2020 after extensive discussion with EGLE. The test is by the vapor-liquid equilibrium calculations.
  
1. ACO 11.B. – Compliance Demonstration (Completed October 05, 2020): Intertape provided a calculated demonstration of compliance per 40 CFR 63.1282(d)(4)(i). AQD-TPU is reviewing the methods.
  
1. ACO 11.C. – Notice of Compliance Status Report (by 12/4/2020):

1. ACO 11.D. – Notify EGLE of performance test: Only calculations.

1. ACO 11.E. – Performance test report: Only calculations

1. ACO 15. – Settlement Payment: Paid October 10, 2020

**Conclusion:**

Intertape is in compliance with the ROP and Web Coating NESHAP / MACT JJJJ / MACT 4J. Intertape resolved MACT 5H via ACO and is in the process of complying with this MACT.

NAME *J. S. Marshall*

DATE December 29, 2020 SUPERVISOR *Joyce*