AIR POLLUTION CONTROL

Shelby County
Health Department

PERMIT TO OPERATE
TITLE V - MAJOR SOURCE

PERMIT NUMBER: 00290-01TV

Sonoco Products Company
2755 Harbor Avenue
Memphis, Tennessee 38113

RENEWAL DATE: May 15, 2021 **EXPIRATION DATE: May 15, 2026**

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This permit fulfills the requirements of Title V of the Federal Clean Air Act (42 U.S.C. 7661a-7661e) and the federal regulations promulgated in 40 CFR Part 70. This permit is issued in accordance with City of Memphis Code Section 16-77 which adopts by reference Rule 1200-3-9.02(11) of the Tennessee Air Pollution Control Regulations. The permittee has been granted permission to operate an air contaminant source in accordance with the emission limitations, monitoring, record-keeping, reporting, and all other requirements set forth herein.

permit condition may be appealed by filing a petition for reconsideration within thirty (30) days after the mailing date of the permit.

This permit may be subject to revocation, suspension, modification or amendment by the Technical Secretary for cause including the evidence of non-compliance with any of the above, or for any misrepresentation made in the application(s), supporting data entered therein or attached thereto, or any subsequent submittal or supporting data, or for any alterations affecting the emissions from this source.

_____

Larry Smith, Acting Technical Manager
Pollution Control Section

Issuance of this permit shall not relieve any owner or operator of the responsibility to comply fully with any other requirements of local, State, or Federal law.

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APPENDICES

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SECTION I - FACILITY INFORMATION

Source Number:	00290
Facility Name:	Sonoco Products Company
Facility Address:	2755 Harbor Avenue Memphis, Tennessee 38113
Facility Telephone:	(901) 774-6321
Facility Owner:	Sonoco Products Company
Owner Address:	One North Second Street Hartsville, South Carolina 29550
Mailing Address:	Post Office Box 13423 Memphis, Tennessee 38113
Billing Contact:	Mike Koepf, Plant Manager (Amended February 5, 2025)
Billing Address:	Same as mailing address
Responsible Official:	Mike Koepf, Plant Manager (Amended February 5, 2025)
Responsible Official Address:	Same as mailing address
Telephone:	(479) 872-4818
Corporate Environmental Contact:	Courtney Conti, Environmental Engineer III (Amended February 5, 2025)
Telephone:	(614) 969-0416
Owner's Registered Agent:	United Agent Group, Inc.
Registered Agent's Address:	205 Powell Place Brentwood, TN 37027-7522
Facility's Primary Activity:	Manufacturer of Composite Metal Can Ends
NAICS (Code(s):	332119

SECTION II - PERMIT INFORMATION

Application Received: January 25, 2021 *(Streamlined Title V Operating Permit renewal application)*
January 6, 2025 *(Change in Responsible Official)*

Application Dated: January 20, 2021 *(Streamlined Title V Operating Permit renewal application)*
January 6, 2025 *(Change in Responsible Official)*

Completeness Determination: February 8, 2021 *(Streamlined Title V Operating Permit renewal application)*

Public Notice: March 2, 2021
Surrounding States Notice: March 5, 2021
Public Hearing: Not requested
Comments Received: None

To EPA for Review: March 5, 2021
EPA Comments: None *(Reference EPA no comment email dated April 2, 2021*)

Initial Title V Operating Permit Issue Date: June 10, 1999
1st Title V Operating Permit Renewal Issue Date: August 20, 2010
2nd Title V Operating Permit Renewal Issue Date: July 26, 2016
3rd Title V Operating Permit Renewal Issue Date: May 15, 2021

Permit engineer: Jeffrey J. Grill (Amended February 5, 2025)

SECTION III – EMISSION UNITS

Emission units from this Sonoco Products Company (Sonoco) facility are separated into five (5) Process Emission Source (PES) Groups as follows:

Table 1

Process Emission Source Group	Emission Unit	Description	Control Equipment	Emission Point	Year Installed[1]
PES-1	EU-1.1	Conventional coater	Complete Enclosure/Thermal Oxidizer	EP-1.1[2]	1996
PES-2	EU-2.1	Sixteen (16) pre-1995 uncontrolled compounders associated with Double Die Presses (Compounders No. 1, 2, 5-7, 11, 15-17, U2A, U2B, U2O, U3O, U4A, U4B, and U5O)	None	EP-2.1[3]	1977-1992
	EU-2.2	Compounder No. 8	Enhanced Capture[3]/Induction Heater[4]/Catalytic Oxidizer	EP-2.2[2]	1992/1999[5]
	EU-2.3	Compounder No. 9	Enhanced Capture[3]/Induction Heater[4]/Catalytic Oxidizer	EP-2.3[2]	1992/1999[5]
	EU-2.4	Compounder No. 10	Enhanced Capture[3]/Induction Heater[4]/Catalytic Oxidizer	EP-2.4[2]	1992/1999[5]
	EU-2.5	Compounder No. 33	None	EP-2.5	April 2011
PES-3	EU-3.1	Compounders No. 23 and 24	Enhanced Capture[3]/Induction Heater [4]/Catalytic Oxidizer[4]	EP-3.1[2]	1998
PES-4	EU-4.2	Compounders No. 29 through 32	Enhanced Capture[3]/Convection Oven[4]/Catalytic Oxidizer	EP-4.2[2]	1999
PES-5	EU-5.1	Compounders No. 34 and 35	Enhanced Capture[3]/Induction Heater [4]/Catalytic Oxidizer[4]	EP-5.1[2]	2015

[1] Installed or last reconstructed
[2] The emission point for this emission unit is the control device exhaust
[3] Enhanced capture includes localized VOC emissions capture for compounded end conveyance and a curing/degassing heater (oven) under negative pressure; all exhausting to a catalytic oxidizer.
[4] Electrically powered
[5] Originally installed in 1992; emission controls added in 1999

SECTION IV – PERMIT CONDITIONS

FACILITY-WIDE REQUIREMENTS

Emission Limits and Restrictions

Condition	Pollutant	Limitation	Cite
1	HAPs	12-month rolling HAP emission limits	NESHAP Avoidance
2	PM/PM_{10}, NO_x, CO, SO_2, VOC	12-month rolling emission limits for process natural gas combustion sources	Source Request
Local Only Conditions			
3	VOC	General VOC Disposal Requirements	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18.06]
4	VOC	General VOC Storage Requirements	
5	VOC	General VOC Storage Requirements	
6	VOC	General VOC Usage Requirements	

Emission Limits and Restrictions:

1. The facility owner or operator shall limit facility-wide individual Hazardous Air Pollutant (HAP) emissions to 9.9 tons per consecutive 12-month rolling period and combined HAP emissions to 24.9 tons per consecutive 12-month rolling period.

2. The facility owner or operator shall limit consecutive 12-month rolling facility-wide emissions from process natural gas combustion sources as follows:

Table FW-1

Pollutant	12-Month Rolling Emission Limit (Tons)
PM/PM_{10}	0.53
NO_x	7.00
CO	5.88
SO_2	0.04
VOC	0.38

Facility-wide process natural gas combustion sources consist of the following:

Table FW-2

Process Emission Source Group	Emission Unit	Fuel Burning Source Description	Heat Input Capacity (MMBtu/hr)
PES-1	EU-1.1	Thermal Oxidizer Burner	12.5
PES-2	EU-2.1	Catalytic Oxidizer Burner	0.8
	EU-2.2	Catalytic Oxidizer Burner	0.8
	EU-2.3	Catalytic Oxidizer Burner	0.8
PES-4	EU-4.2	Catalytic Oxidizer Burner	1.4

FACILITY-WIDE REQUIREMENTS

Emission Limits and Restrictions (continued):

Local Only Conditions:

3. The facility owner or operator shall not cause, allow, or permit the disposal of more than 5 kilograms (kg) (11 pounds [lb]) of any volatile organic compound (VOC), or of any materials containing more than 5 kg (11 lb) of any VOCs, in any 1 day in a manner that would permit the evaporation from the facility of that VOC into the ambient air in excess of the minimum reasonably attainable. "Minimum reasonably attained emissions" is the minimum quantity of VOCs which is emitted when utilizing all reasonable techniques for controlling evaporation during handling of materials for storage and disposal. Prevention of any evaporation of VOCs from storage and disposal techniques is considered minimum reasonably attainable.

4. The facility owner or operator shall not use open containers for the storage or disposal of materials impregnated with VOCs that are used for surface preparation, cleanup, coating removal or equipment cleaning or maintenance.

5. The facility owner or operator shall not store in open containers spent or fresh VOC to be used for surface preparation, cleanup, coating removal, or facility or equipment cleaning or maintenance.

6. The facility owner or operator shall not use VOC for the cleanup of tools and process equipment, such as spray equipment, unless equipment is used to collect the cleaning compounds and to reasonably minimize VOC evaporation to the atmosphere.

FACILITY-WIDE REQUIREMENTS

Monitoring and Recordkeeping Requirements

Condition	Pollutant	Requirement	Frequency	Cite
1	HAP	Record of HAP-containing material usage	Monthly	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
2	HAP	Record of HAP emissions	Monthly	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
3	HAP	Raw material HAP content records	Continuous	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
4	PM/PM_{10}, NO_x, CO, SO_2, VOC	Natural gas usage from process fuel burning sources	Monthly	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]

Monitoring and Recordkeeping Requirements:

1. The facility owner or operator shall maintain monthly and consecutive 12-month rolling HAP-containing material usage records for the facility.

2. The facility owner or operator shall calculate and record both monthly and consecutive 12-month rolling facility-wide HAP emissions. If the consecutive 12-month rolling total is greater than or equal to 10 tons, the facility must identify the primary HAPs emitted and calculate the consecutive 12-month rolling facility-wide emissions of each of these individual HAPs.

3. The facility owner or operator shall maintain records indicating the mass of HAP per unit volume of each HAP containing material in use at the facility.

4. The facility owner or operator shall maintain facility-wide monthly and consecutive 12-month rolling natural gas usage records from process fuel burning sources at the facility (See Table FW-2).

FACILITY-WIDE REQUIREMENTS

Reporting Requirements

Condition	Description	Frequency	Cite
1	Semiannual Monitoring Report	Semi-Annually	City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02 (11)(e)1.(iii)(I)]
2	Compliance Certification	Annually	City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9.02(11)(e)3.(v)]
3	HAP Emissions Report	Semi-Annually	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]; NESHAP Avoidance
Local Only Conditions			
4	Annual Emission Report	Annually	City of Memphis Code Section 16-98

Reporting Requirements:

1. The facility owner or operator shall submit a Semi-Annual Monitoring Report to the Shelby County Health Department, Pollution Control Section (the Department). This report shall include all deviations from permit requirements. Each report shall be certified by the responsible official in accordance with the requirements of City of Memphis Code Section 16-77, [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(d)4]. Semiannual monitoring reports shall be due within 60 calendar days of December 31 and June 30 each year. The reporting periods are January 1 through June 30 and July 1 through December 31.

2. The responsible official shall certify compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. Specifically, the compliance certification shall include the following:

    a) The identification of each term or condition of the permit that is the basis of the certification;

    b) The status of compliance with the terms and conditions of the permit for the period covered by the certification. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify, as possible exceptions to compliance, any periods during which compliance is required in which an excursion or exceedence as defined under City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(b) (30-31)] occurred;

    c) Whether compliance was continuous or intermittent;

Reporting Requirements (continued):

d) The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)1(iii)];

e) Such other facts as the permitting authority may require to determine the compliance status of the source; and

f) A certification that based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete

This certification shall be submitted annually to the Department and to the USEPA at the following addresses:

Technical Manager
Shelby County Health Department
Pollution Control Section
814 Jefferson Avenue, 4th Floor
Memphis, Tennessee 38105

_____

Enforcement and Compliance Assurance Division
~~Air and EPCRA Enforcement Branch~~
US EPA Region 4
61 Forsyth Street, S.W.
Atlanta, GA 30303

Each certification shall be due within 60 calendar days of June 30 each year. The reporting period is July 1 through June 30.

3. The facility owner or operator shall submit a semi-annual HAP report to the Department including monthly and consecutive 12-month rolling HAP emissions (total combined HAPs and individual HAPs if the combined HAP total is greater than or equal to 10 tons). Submittal of this report shall coincide with that of the semiannual monitoring report required in Condition No. 1 of this section.

Local Only Conditions:

4. The facility owner or operator shall submit a report to the Department, on an annual basis, that establishes the amount of actual emissions of each regulated pollutant, including carbon monoxide, for the facility according to the provisions in City of Memphis Code Section 16-98. This report shall be submitted no later than February 28th of each calendar year, unless otherwise specified by the Department, and shall include emissions that occurred during the previous calendar year.

Process Emission Source Group (PES)-1

Emission Unit (EU)-1.1
Conventional Coater

Emission Limits and Restrictions

Condition	Pollutant	Limitation	Cite
1	VOC	VOC emission limits	Permit No. 0290-06P (Monthly limit replaced monthly average hourly limit)
2	VOC	Sheet basecoat VOC content or controlled limit of 2.8 lbs/gal	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.12(3) and 1200-3-18-.12(5)]
3	VOC	VOC emission control system requirement	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.12(5)(b)]; Permit No. 0290-06P
4	VOC	Minimum thermal oxidizer combustion zone temperature	Permit No. 0290-06P
5	PM/PM_{10}	Opacity standard	City of Memphis Code Section 16-83 [Reference Rules and Regulations of Tennessee, Rule 1200-3-5-.01]
6	PM/PM_{10}	Particulate matter process emission standards	City of Memphis Code Section 16-78 [Reference Rules and Regulations of Tennessee, Rule 1200-3-7-.03(1) and -.04(2)]
7	SO_2	SO_2 process emission standard	City of Memphis Code Section 16-82 [Reference Rules and Regulations of Tennessee, Rule 1200-3-14-.03(3)]

Emission Limits and Restrictions:

1. The maximum allowable volatile organic compound (VOC) emissions from the Conventional Coater (EU-1.1) shall not exceed 4.1 tons per month and 48.1 tons per consecutive 12-month rolling period.

2. The facility owner or operator shall not cause or allow the application of any sheet basecoat with a VOC content that exceeds 2.8 pounds per gallon of coating as applied, excluding water and/or exempt compounds. As an alternative to compliance with the VOC content limit, the owner or operator may comply by using a control device (see Condition No. 3)

3. EU-1.1 shall be operated within a complete enclosure that exhausts to a thermal oxidizer at all times when VOC containing coatings are in use.

4. The thermal oxidizer shall be operated at or above a minimum combustion zone temperature of 1,300 ^{o}F at all times when VOC containing coatings are in use.

PES-1

Emission Limits and Restrictions (continued):

5. Visible emissions from EU-1.1 shall not exceed twenty percent (20%) in opacity for more than five (5) minutes in any one (1) hour period or more than twenty (20) minutes in any twenty-four (24) hour period.

6. The maximum hourly emission rate (E) of PM/PM_{10} from EU-1.1 shall not exceed the following:

   $E = 3.59\ P^{0.62}$ where the process weight in tons per hour (P) is less than or equal to 30 tons per hour; and

   $E = 17.31\ P^{0.16}$ where P is greater than 30 tons per hour

   Irrespective of the maximum allowable PM/PM_{10} emission rate as determined above, the concentration of particulate process emissions shall not be required to be less than 0.02 grains per cubic foot of stack gases or greater than 0.25 grains per cubic foot of stack gases corrected to 70°F and 1 atmosphere.

7. Sulfur dioxide (SO_2) emissions from EU-1.1 shall not exceed 2,000 parts per million by volume (ppmv), dry basis (one-hour average).

PES-1

Emission Unit (EU)-1.1
Conventional Coater

Monitoring and Recordkeeping

Condition	Pollutant	Requirement	Frequency	Cite
1	VOC	Recordkeeping requirements (Coating data and control system data)	Daily	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(5)(b)
2	VOC	Control system emission reduction efficiency	Daily	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.12(5)(a) and 1200-3-18-.82(3)
3	VOC	Thermal oxidizer temperature monitoring	Continuous	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.12(5)(b)
4	VOC	Temperature recording accuracy	Continuous	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.83(2)(b)2.
5	VOC	Compliance assurance monitoring	Various	40 CFR part 64
6	VOC	VOC containing material usage records	Monthly	Permit No. 0290-06P; City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
Local Only Conditions				
7	VOC	Emission calculations	Monthly	Permit No. 0290-06P; City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
8	VOC	Control equipment malfunction and maintenance records	Each occurrence	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]

Monitoring and Recordkeeping Requirements:

1. The facility owner or operator shall record and maintain the following information:

    a) The name and identification number of each coating used to calculate the required overall emission reduction efficiency;

    b) The mass of VOC per unit volume of coating solids, as applied, the volume solids content, as applied, and the volume, as applied, of each coating used, if necessary, to calculate the required overall emission reduction efficiency;

Monitoring and Recordkeeping Requirements (continued):

c) The maximum VOC content (mass of VOC per unit volume of solids, as applied) or the weighted average VOC content (mass of VOC per unit volume of solids, as applied) of the coatings used, if necessary, to calculate the required overall emission reduction efficiency;

d) The required overall emission reduction efficiency as specified in the City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.12(5)];

e) The actual overall emission reduction efficiency achieved;

f) Control device monitoring data (e.g. incinerator temperature);

g) A log of operating time for the capture system, control device, and monitoring equipment, and the associated line or operation;

h) A maintenance log for the capture system, control device, and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages; and

i) For thermal incinerators, all 3-hour periods of operation in which the average combustion temperature was more than 50 °F below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance

2. The facility owner or operator shall:

a) Determine for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.82(3)] or 95%; and

b) Demonstrate each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

3. The facility owner or operator shall continuously monitor and record the thermal oxidizer combustion zone temperature. This continuous temperature monitoring equipment shall be installed, calibrated, operated and maintained according to the manufacturer's specifications.

Monitoring and Recordkeeping Requirements (continued):

4. The continuous temperature monitoring equipment shall have an accuracy of ±1 percent of the combustion temperature or ±0.5°C, whichever is greater.

5. The facility owner or operator shall performance test, monitor, inspect and operate the VOC emission control system (thermal oxidizer and enclosure) associated with EU-1.1 in accordance with the CAM Plan within Appendix C of this permit.

6. The facility owner or operator shall maintain usage records for each VOC-containing material used at EU-1.1 on a monthly basis (e.g. individual coatings, solvents and cleaners):

Local Only Conditions:

7. The facility owner or operator shall calculate and record monthly and consecutive 12-month rolling VOC emissions from EU-1.1.

8. Preventative maintenance, malfunction and repair records shall be maintained for all air pollution control equipment within EU-1.1.

PES-1

Emission Unit (EU)-1.1
Conventional Coater

Notification and Reporting

Condition	Description	Frequency	Cite
1	Notification of instance of noncompliance (Emission control equipment)	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(5)(c)]
2	Monitoring report	Semi-annually	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04(2)]

Notification and Reporting Requirements:

1. The facility owner or operator shall notify the Department of an instance of noncompliance with the applicable requirements for control devices, such instance of noncompliance including any period of operation during which the parameter boundaries established during the most recent performance test are exceeded as specified in City of Memphis Code Section16-80 [Reference Rules and regulations of Tennessee, Rule 1200-3-18-.03(5)(b)9.], by sending a copy of that notice to the Department within thirty (30) calendar days following the occurrence.

2. The facility owner or operator shall submit a report to the Department semi-annually including the following:

    a) Monthly and consecutive 12-month rolling VOC emissions from EU-1.1 for the reporting period; and

    b) A log of thermal oxidizer malfunctions and all instances of EU-1.1 deviations from permit requirements for the reporting period

    Submittal of this report shall coincide with the required Semi-Annual Monitoring Report for this facility (See Facility-Wide Requirements, Reporting Requirements, Condition No. 1).

PES-2

EU-2.1
Compounders No. 1, 2, 5-7, 11, 15-17, U2A, U2B, U2O, U3O, U4A, U4B and U5O
(Sixteen (16) pre-1995 Uncontrolled Compounders associated with Double Die Presses)

EU-2.2, 2.3 and 2.4
Compounders No. 8, 9 and 10
(Three Compounders with VOC Emission Controls associated with Double Die Presses)
(Emission Controls include Enhanced Capture, Induction Heaters and Catalytic Oxidizers)

EU-2.5
Compounder No. 33
(2012 Uncontrolled/Restricted)

Emission Limits and Restrictions

Condition	Pollutant	Limitation	Cite
1	VOC	End sealant compound VOC content limit	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rules 1200-3-18-.12(3) and 1200-3-18-.12(5)]
2	VOC	VOC emission limit, excluding EU-2.5 (Compounder No. 33)	Permit No. 0290-06P
3	VOC	EU-2.5 (Compounder No. 33) VOC emission limits	Permit No. 0290-09PC and PSD Avoidance
4	VOC	EU-2.5 (Compounder No. 33) production restriction	1997 Consent Decree
5	VOC	Use of control equipment with a minimum overall emission reduction efficiency of 80% (EU-2.2, 2.3 and 2.4)	1997 Consent Decree; and Permit No. 0290-06P
6	PM/PM_{10}	Opacity standard	City of Memphis Code Section 16-83 [Reference Rules and Regulations of Tennessee, Rule 1200-3-5-.01]
7	PM/PM_{10}	Particulate matter process emission standards	City of Memphis Code Section 16-78 [Reference Rules and Regulations of Tennessee, Rule 1200-3-7-.03(1) and -.04(2)
8	SO_2	SO_2 process emission standard (EU-2.2, 2.3 and 2.4)	City of Memphis Code Section 16-82 [Reference Rules and Regulations of Tennessee, Rule 1200-3-14-.03(3)]

PES-2

1. The facility owner or operator shall not cause or allow the application of any end sealant compound within PES-2 with a VOC content that exceeds 3.7 pounds per gallon of coating as applied, excluding water and/or exempt compounds.

2. The maximum allowable VOC emissions from PES-2, excluding EU-2.5 (Compounder No. 33), shall not exceed 230.6 tons per consecutive 12-month rolling period.

3. The maximum allowable VOC emissions from EU-2.5 (Compounder No. 33) shall not exceed 3.33 tons per month and 39.86 tons per consecutive 12-month rolling period.

4. The facility owner or operator shall <u>not</u> operate EU-2.5 (Compounder No. 33) for production that is otherwise normally performed on equipment requiring VOC emission controls.

5. The facility owner or operator shall operate EU-2.2, 2.3 and 2.4 (Compounders No. 8, 9 and 10) with the use of pollution control equipment. This pollution control equipment (Enhanced Capture Systems/Convection Ovens/Catalytic Oxidizers) shall have a minimum overall VOC emission reduction efficiency of greater than or equal to eighty percent (80%) and be in use whenever Compounder No. 8, 9 and/or 10 is in operation.

6. Visible emissions from PES-2 shall not exceed twenty percent (20%) in opacity for more than five (5) minutes in any one (1) hour period or more than twenty (20) minutes in any twenty-four (24) hour period.

7. The maximum hourly emission rate (E) of PM/PM_{10} from EU-2.2, 2.3 and 2.4 shall not exceed the following:

   $E = 3.59\ P^{0.62}$ where the process weight in tons per hour (P) is less than or equal to 30 tons per hour; and

   $E = 17.31\ P^{0.16}$ where P is greater than 30 tons per hour

   Irrespective of the maximum allowable PM/PM_{10} emission rate as determined above, the concentration of particulate process emissions shall not be required to be less than 0.02 grains per cubic foot of stack gases or greater than 0.25 grains per cubic foot of stack gases corrected to $70^{o}F$ and 1 atmosphere.

8. SO_2 emissions from EU-2.2, 2.3 and 2.4 shall not exceed 2,000 ppmv, dry basis (one-hour average).

PES-2

EU-2.1
Compounders No. 1, 2, 5-7, 11, 15-17, U2A, U2B, U2O, U3O, U4A, U4B and U5O
(Sixteen (16) pre-1995 Uncontrolled Compounders associated with Double Die Presses)

EU-2.2, 2.3 and 2.4
Compounders No. 8, 9 and 10
(Three Compounders with VOC Emission Controls associated with Double Die Presses)
(Emission Controls include Enhanced Capture, Induction Heaters and Catalytic Oxidizers)

EU-2.5
Compounder No. 33
(2012 Uncontrolled/Restricted)

Monitoring and Recordkeeping

Condition	Pollutant	Requirement	Frequency	Cite
1	VOC	Catalyst bed temperature monitoring (EU-2.2, 2.3 and 2.4)	Continuous	Permit No. 0290-06P
2	VOC	Temperature recording accuracy (EU-2.2, 2.3 and 2.4)	Continuous	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
3	VOC	Record of 3-hr periods when catalyst bed inlet temperature is > 50°F below the temperature measured during the most recent compliance demonstration (EU-2.2, 2.3 and 2.4)	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03 (5)(b)10(ii)]
4	VOC	Compliance assurance monitoring (EU-2.2, 2.3 and 2.4)	Various	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
5	VOC	Certification and record of VOC-containing material properties	Continuous	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(3)(b)]
6	VOC	VOC-containing material usage records	Monthly	Permits No. 0290-06P and 09P
7	VOC	EU-2.5 production line records	Per event	City of Memphis Code Section 16-85
Local Only Conditions				
8	VOC	Emission calculations for PES-2, excl. EU-2.5 (Compounder No. 33)	Monthly	Permit No. 0290-06P
9	VOC	Emission calculations for EU-2.5 (Compounder No. 33)	Monthly	Permits No. 0290-09PC
10	VOC	Control equipment malfunction and maintenance records	Each occurrence	Permit No. 0290-06P

PES-2

Monitoring and Recordkeeping Requirements:

1. The facility owner or operator shall operate continuous monitoring equipment to monitor the inlet and outlet temperature of the catalyst bed for EU-2.2, 2.3 and 2.4. The continuous temperature monitoring equipment shall be equipped with a continuous recorder. The monitoring and recording equipment shall be installed, calibrated, operated and maintained according to the manufacturer's specifications at all times the control device is in use.

2. The continuous temperature monitoring equipment for EU-2.2, 2.3 and 2.4 shall have an accuracy of $\pm$1 percent of the combustion temperature or $\pm$0.5°C, whichever is greater.

3. The facility owner or operator shall maintain records of all three hour periods of operation for which the average temperature measured before the catalyst bed for EU-2.2, 2.3 and 2.4 is more than 50°F below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalytic oxidizer that demonstrated that the facility was in compliance.

4. The facility owner or operator shall performance test, monitor, inspect and operate the VOC emission control systems associated with EU-2.2, 2.3 and 2.4 in accordance with the CAM Plan within Appendix C of this permit.

5. The facility owner or operator shall maintain the following certification records on file at the facility:

    a) The name and identification number of each sealant compound, compounder head mist solution, and compound thinner used; and

    b) The mass of VOC per volume (lbs VOC/gal) of each sealant compound, compounder head mist solution, compound thinner, in use (excluding water and/or exempt compounds), as applied

6. The facility owner or operator shall maintain usage records for each VOC-containing material used within EU-2.1, 2.2, 2.3, 2.4 and 2.5 on a monthly basis (e.g. individual sealant compounds, compounder head mist solutions, compound thinners, and clean-up solvents).

7. The facility owner or operator shall maintain records of the production line (including Press No. and end type being produced) at which EU-2.5 (Compounder No. 33) is being utilized. These records shall be updated upon each change of production line association.

Local Only Conditions:

8. The facility owner or operator shall calculate and record monthly and consecutive 12-month rolling VOC emissions from PES-2, excluding EU-2.5 (Compounder No. 33).

PES-2

Monitoring and Recordkeeping Requirements (continued):

9. The facility owner or operator shall calculate and record monthly and consecutive 12-month rolling VOC emissions from EU-2.5 (Compounder No. 33).

10. Preventative maintenance, malfunction and repair records shall be maintained for all air pollution control equipment within PES-2.

PES-2

EU-2.1
Compounders No. 1, 2, 5-7, 11, 15-17, U2A, U2B, U2O, U3O, U4A, U4B and U5O
(Sixteen (16) pre-1995 Uncontrolled Compounders associated with Double Die Presses)

EU-2.2, 2.3 and 2.4
Compounders No. 8, 9 and 10
(Three Compounders with VOC Emission Controls associated with Double Die Presses)
(Emission Controls include Enhanced Capture, Induction Heaters and Catalytic Oxidizers)

EU-2.5
Compounder No. 33 (*2012 Uncontrolled/Restricted)*

Notification and Reporting

Condition	Description	Frequency	Cite
1	Notification of instance of noncompliance or change in method of compliance (Compliant coatings)	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(3)(c)]
2	Notification of instance of noncompliance (Emission control equipment)	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(5)(c)]
3	Monitoring report	Semi-annually	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
4	Capture system verification testing	Monthly	
5	Catalyst efficiency test reports	Each occurrence	

Notification and Reporting Requirements:

1. The owner or operator shall notify the Department in the following instances:

    a) Any record showing use of any non-complying end sealing compound coat shall be reported by sending a copy of such record to the Department within thirty (30) calendar days following that use; and

    b) At least thirty (30) calendar days before changing the method of compliance from the use of complying end sealing compound coat to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of Subparagraph 1200-3-18-.03(4)(a) or 1200-3-18-.03(5)(a), respectively.

2. The facility owner or operator shall notify the Department of an instance of noncompliance with the applicable requirements for control devices, such instance of noncompliance including any period of operation during which the parameter boundaries established during the most recent performance test are exceeded as specified in City of Memphis Code Section16-80 [Reference Rules and regulations of Tennessee, Rule 1200-3-18-.03(5)(b)10.], by sending a copy of that notice to the Department within thirty (30) calendar days following the occurrence.

PES-2

Notification and Reporting Requirements (continued):

3. The facility owner or operator shall submit a report to the Department semi-annually including the following:

    a) Monthly and consecutive 12-month rolling VOC emissions from PES-2, excluding EU-2.5 (Compounder No. 33) for the reporting period;

    b) Monthly and consecutive 12-month rolling VOC emissions from EU-2.5 (Compounder No. 33) for the reporting period;

    c) Monthly sealant compound usage at EU-2.5 (Compounder No. 33); and

    d) A log of catalytic oxidizer malfunctions and all instances of PES-2 deviations from permit requirements for the reporting period

    Submittal of this report shall coincide with the required Semi-Annual Monitoring Report for this facility (See Facility-Wide Requirements, Reporting Requirements, Condition No. 1).

4. The facility owner or operator shall submit all monthly capture system verification test results to the Department. Submittal of these results shall coincide with the required Semi-Annual Monitoring Report for this facility (See Facility-Wide Requirements, Reporting Requirements, Condition No. 1).

5. The facility owner or operator shall submit all catalyst efficiency testing reports to the Department within 60 days of test completion.

PES-3

EU-3.1
Compounders No. 23 and 24

(Two Compounders with VOC Emission Controls associated with a Multi-Die Press)
(Emission Controls include Enhanced Capture, Induction Heater and Catalytic Oxidizer)

Emission Limits and Restrictions

Condition	Pollutant	Limitation	Cite
1	VOC	End sealant compound VOC content limit	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rules 1200-3-18-.12(3)]
2	VOC	VOC emission limits	Permit No. 0290-06P (Monthly average hourly limit converted to a monthly limit)
3	VOC	Use of control equipment with a minimum overall emission reduction efficiency of 80%	1997 Consent Decree; and Permit No. 0290-06P
4	PM/PM_{10}	Opacity standard	City of Memphis Code Section 16-83 [Reference Rules and Regulations of Tennessee, Rule 1200-3-5-.01]

Emission Limits and Restrictions:

1. The facility owner or operator shall not cause or allow the application of any end sealant compound at EU-3.1 with a VOC content that exceeds 3.7 pounds per gallon of coating as applied, excluding water and/or exempt compounds.

2. The maximum allowable VOC emissions from Compounders No. 23 and 24 (EU-3.1) shall not exceed 1.1 tons per month and 13.0 tons per consecutive 12-month rolling period.

3. The facility owner or operator shall operate EU-3.1 with the use of pollution control equipment. This pollution control equipment shall have a minimum overall VOC emission reduction efficiency of greater than or equal to eighty percent (80%) and be in use whenever Compounder No. 23 or 24 is in operation.

4. Visible emissions from PES-3 shall not exceed twenty percent (20%) in opacity for more than five (5) minutes in any one (1) hour period or more than twenty (20) minutes in any twenty-four (24) hour period.

PES-3

EU-3.1
Compounders No. 23 and 24
(Two Compounders with VOC Emission Controls associated with a Multi-Die Press)
(Emission Controls include Enhanced Capture, Induction Heater and Catalytic Oxidizer)

Monitoring and Recordkeeping

Condition	Pollutant	Requirement	Frequency	Cite
1	VOC	Catalyst bed temperature monitoring	Continuous	Permit No. 0290-06P
2	VOC	Temperature recording accuracy	Continuous	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
3	VOC	Record of 3-hr periods when catalyst bed inlet temperature is > 50°F below the temperature measured during the most recent compliance demonstration	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03 (5)(b)10(ii)]
4	VOC	Compliance assurance monitoring	Various	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
5	VOC	Certification and record of VOC-containing material properties	Continuous	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(3)(b)]
6	VOC	VOC-containing material usage records	Monthly	Permits No. 0290-06P and 09P
Local Only Conditions				
7	VOC	Emission calculations	Monthly	Permit No. 0290-06P
8	VOC	Control equipment malfunction and maintenance records	Each occurrence	Permit No. 0290-06P

Monitoring and Recordkeeping Requirements:

1. The facility owner or operator shall operate continuous monitoring equipment to monitor the inlet and outlet temperature of the catalyst bed for EU-3.1. The continuous temperature monitoring equipment shall be equipped with a continuous recorder. The monitoring and recording equipment shall be installed, calibrated, operated and maintained according to the manufacturer's specifications at all times the control device is in use.

2. The continuous temperature monitoring equipment for EU-3.1 shall have an accuracy of $\pm$1 percent of the combustion temperature or $\pm$0.5°C, whichever is greater.

PES-3

Monitoring and Recordkeeping Requirements (continued):

3. The facility owner or operator shall maintain records of all three hour periods of operation for which the average temperature measured before the catalyst bed for EU-3.1 is more than 50°F below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalytic oxidizer that demonstrated that the facility was in compliance.

4. The facility owner or operator shall performance test, monitor, inspect and operate the VOC emission control systems associated with EU-3.1 in accordance with the CAM Plan within Appendix C of this permit.

5. The facility owner or operator shall maintain the following certification records on file at the facility:

    a) The name and identification number of each sealant compound, compounder head mist solution, and compound thinner used; and

    b) The mass of VOC per volume (lbs VOC/gal) of each sealant compound, compounder head mist solution, compound thinner, in use (excluding water and/or exempt compounds), as applied

6. The facility owner or operator shall maintain usage records for each VOC-containing material used at EU-3.1 on a monthly basis (e.g. individual sealant compounds, compounder head mist solutions, compound thinners, and clean-up solvents).

Local Only Conditions:

7. The facility owner or operator shall calculate and record monthly and consecutive 12-month rolling VOC emissions from EU-3.1.

8. Preventative maintenance, malfunction and repair records shall be maintained for all air pollution control equipment within EU-3.1.

EU-3.1
Compounders No. 23 and 24

(Two Compounders with VOC Emission Controls associated with a Multi-Die Press)
(Emission Controls include Enhanced Capture, Induction Heater and Catalytic Oxidizer)

Notification and Reporting

Condition	Description	Frequency	Cite
1	Notification of instance of noncompliance or change in method of compliance (Compliant coatings)	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(3)(c)]
2	Notification of instance of noncompliance (Emission control equipment)	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(5)(c)]
3	Monitoring report	Semi-annually	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
4	Capture system verification resting	Quarterly	
5	Catalyst replacement	Each	

Notification and Reporting Requirements:

1. The owner or operator shall notify the Department in the following instances:

    a) Any record showing use of any non-complying end sealing compound coat shall be reported by sending a copy of such record to the Department within thirty (30) calendar days following that use; and

    b) At least thirty (30) calendar days before changing the method of compliance from the use of complying end sealing compound coat to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of Subparagraph 1200-3-18-.03(4)(a) or 1200-3-18-.03(5)(a), respectively.

2. The facility owner or operator shall notify the Department of an instance of noncompliance with the applicable requirements for control devices, such instance of noncompliance including any period of operation during which the parameter boundaries established during the most recent performance test are exceeded as specified in City of Memphis Code Section16-80 [Reference Rules and regulations of Tennessee, Rule 1200-3-18-.03(5)(b)10.], by sending a copy of that notice to the Department within thirty (30) calendar days following the occurrence.

3. The facility owner or operator shall submit a report to the Department semi-annually including the following:

    a) Monthly and consecutive 12-month rolling VOC emissions from EU-3.1 for the reporting period; and

Notification and Reporting Requirements (continued):

b) A log of catalytic oxidizer malfunctions and all instances of EU-3.1 deviations from permit requirements for the reporting period

Submittal of this report shall coincide with the required Semi-Annual Monitoring Report for this facility (See Facility-Wide Requirements, Reporting Requirements, Condition No. 1).

4. The facility owner or operator shall submit all quarterly capture system verification test results to the Department. Submittal of these results shall coincide with the required Semi-Annual Monitoring Report for this facility (See Facility-Wide Requirements, Reporting Requirements, Condition No. 1).

5. The facility owner or operator shall submit a notification of all catalyst replacement activities to the Department within 30 days of the replacement.

PES-4

EU-4.2
Compounders No. 29 - 32

(Four Compounders with VOC Emission Controls associated with Formatec Press No. 2)
(Emission Controls include Enhanced Capture, Convection Oven and Catalytic Oxidizer)

Emission Limits and Restrictions

Condition	Pollutant	Limitation	Cite
1	VOC	End sealant compound VOC content limit	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rules 1200-3-18-.12(3)]
2	VOC	VOC emission limits	Permit No. 0290-07PC (Monthly average hourly limit converted to a monthly limit)
3	VOC	Use of control equipment with a minimum overall emission reduction efficiency of 80%	1997 Consent Decree; and Permit No. 0290-07PC
4	PM/PM_{10}	Opacity standard	City of Memphis Code Section 16-83 [Reference Rules and Regulations of Tennessee, Rule 1200-3-5-.01]
5	PM/PM_{10}	Particulate matter process emission standards	City of Memphis Code Section 16-78 [Reference Rules and Regulations of Tennessee, Rule 1200-3-7-.03(1) and -.04(2)
6	SO_2	SO_2 process emission standard	City of Memphis Code Section 16-82 [Reference Rules and Regulations of Tennessee, Rule 1200-3-14-.03(3)]

Emission Limits and Restrictions:

1. The facility owner or operator shall not cause or allow the application of any end sealant compound at EU-4.2 with a VOC content that exceeds 3.7 pounds per gallon of coating as applied, excluding water and/or exempt compounds.

2. The maximum allowable VOC emissions from Compounders No. 29 - 32 (EU-4.2) shall not exceed 2.4 tons per month and 25.9 tons per consecutive 12-month rolling period.

3. The facility owner or operator shall operate EU-4.2 with the use of pollution control equipment. This pollution control equipment shall have a minimum overall VOC emission reduction efficiency of greater than or equal to eighty percent (80%) and be in use whenever EU-4.2 is in operation.

4. Visible emissions from EU-4.2 shall not exceed twenty percent (20%) in opacity for more than five (5) minutes in any one (1) hour period or more than twenty (20) minutes in any twenty-four (24) hour period.

PES-4

Emission Limits and Restrictions (continued):

5. The maximum hourly emission rate (E) of PM/PM_{10} from EU-4.2 shall not exceed the following:

   $E = 3.59\ P^{0.62}$ where the process weight in tons per hour (P) is less than or equal to 30 tons per hour; and

   $E = 17.31\ P^{0.16}$ where P is greater than 30 tons per hour

   Irrespective of the maximum allowable PM/PM_{10} emission rate as determined above, the concentration of particulate process emissions shall not be required to be less than 0.02 grains per cubic foot of stack gases or greater than 0.25 grains per cubic foot of stack gases corrected to 70°F and 1 atmosphere.

6. SO_2 emissions from EU-4.2 shall not exceed 2,000 ppmv, dry basis (one-hour average).

PES-4

EU-4.2
Compounders No. 29 - 32
(Four Compounders with VOC Emission Controls associated with Formatec Press No. 2)
(Emission Controls include Enhanced Capture, Convection Oven and Catalytic Oxidizer)

Monitoring and Recordkeeping

Condition	Pollutant	Requirement	Frequency	Cite
1	VOC	Catalyst bed temperature monitoring	Continuous	Permit No. 0290-07PC
2	VOC	Temperature recording accuracy	Continuous	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
3	VOC	Record of 3-hr periods when catalyst bed inlet temperature is > 50°F below the temperature measured during the most recent compliance demonstration	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03 (5)(b)10(ii)]
4	VOC	Compliance assurance monitoring	Various	40 CFR part 64
5	VOC	Certification and record of VOC-containing material properties	Continuous	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(3)(b)]
6	VOC	VOC-containing material usage records	Monthly	Permits No. 0290-07PC
Local Only Conditions				
7	VOC	Emission calculations	Monthly	Permit No. 0290-07PC
8	VOC	Control equipment malfunction and maintenance records	Each occurrence	Permit No. 0290-07PC

Monitoring and Recordkeeping Requirements:

1. The facility owner or operator shall operate continuous monitoring equipment to monitor the inlet and outlet temperature of the catalyst bed for EU-4.2. The continuous temperature monitoring equipment shall be equipped with a continuous recorder. The monitoring and recording equipment shall be installed, calibrated, operated and maintained according to the manufacturer's specifications at all times the control device is in use.

2. The continuous temperature monitoring equipment for EU-4.2 shall have an accuracy of $\pm$1 percent of the combustion temperature or $\pm$0.5°C, whichever is greater.

PES-4

Monitoring and Recordkeeping Requirements (continued):

3. The facility owner or operator shall maintain records of all three hour periods of operation for which the average temperature measured before the catalyst bed for EU-4.2 is more than 50°F below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalytic oxidizer that demonstrated that the facility was in compliance.

4. The facility owner or operator shall performance test, monitor, inspect and operate the VOC emission control systems associated with EU-4.2 in accordance with the CAM Plan within Appendix C of this permit.

5. The facility owner or operator shall maintain the following certification records on file at the facility:

    a) The name and identification number of each sealant compound, compounder head mist solution, and compound thinner used; and

    b) The mass of VOC per volume (lbs VOC/gal) of each sealant compound, compounder head mist solution, compound thinner, in use (excluding water and/or exempt compounds), as applied

6. The facility owner or operator shall maintain usage records for each VOC-containing material used at EU-4.2 on a monthly basis (e.g. individual sealant compounds, compounder head mist solutions, compound thinners, and clean-up solvents).

Local Only Conditions:

7. The facility owner or operator shall calculate and record monthly and consecutive 12-month rolling VOC emissions from EU-4.2.

8. Preventative maintenance, malfunction and repair records shall be maintained for all air pollution control equipment within EU-4.2.

PES-4

EU-4.2
Compounders No. 29 - 32
(Four Compounders with VOC Emission Controls associated with Formatec Press No. 2)
(Emission Controls include Enhanced Capture, Convection Oven and Catalytic Oxidizer)

Notification and Reporting

Condition	Description	Frequency	Cite
1	Notification of instance of noncompliance or change in method of compliance (Compliant coatings)	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(3)(c)]
2	Notification of instance of noncompliance (Emission control equipment)	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(5)(c)]
3	Monitoring report	Semi-annually	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
4	Capture system verification testing	Quarterly	
5	Catalyst replacement	Each occurrence	

Notification and Reporting Requirements:

1. The owner or operator shall notify the Department in the following instances:

    a) Any record showing use of any non-complying end sealing compound coat shall be reported by sending a copy of such record to the Department within thirty (30) calendar days following that use; and

    b) At least thirty (30) calendar days before changing the method of compliance from the use of complying end sealing compound coat to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of Subparagraph 1200-3-18-.03(4)(a) or 1200-3-18-.03(5)(a), respectively.

2. The facility owner or operator shall notify the Department of an instance of noncompliance with the applicable requirements for control devices, such instance of noncompliance including any period of operation during which the parameter boundaries established during the most recent performance test are exceeded as specified in City of Memphis Code Section16-80 [Reference Rules and regulations of Tennessee, Rule 1200-3-18-.03(5)(b)10.], by sending a copy of that notice to the Department within thirty (30) calendar days following the occurrence.

3. The facility owner or operator shall submit a report to the Department semi-annually including the following:

    a) Monthly and consecutive 12-month rolling VOC emissions from EU-4.2 for the reporting period; and

PES-4

Notification and Reporting Requirements (continued):

b) A log of catalytic oxidizer malfunctions and all instances of EU-4.2 deviations from permit requirements for the reporting period

Submittal of this report shall coincide with the required Semi-Annual Monitoring Report for this facility (See Facility-Wide Requirements, Reporting Requirements, Condition No. 1).

4. The facility owner or operator shall submit all quarterly capture system verification test results to the Department. Submittal of these results shall coincide with the required Semi-Annual Monitoring Report for this facility (See Facility-Wide Requirements, Reporting Requirements, Condition No. 1).

5. The facility owner or operator shall submit a notification of all catalyst replacement activities to the Department within 30 days of the replacement.

PES-5

EU-5.1
Compounders No. 34 and 35

(Two Compounders with VOC Emission Controls associated with a Multi-Die Press)
(Emission Controls include Enhanced Capture, Induction Heater and Catalytic Oxidizer)

Emission Limits and Restrictions

Condition	Pollutant	Limitation	Cite
1	VOC	End sealant compound VOC content limit	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rules 1200-3-18-.12(3)]
2	VOC	VOC emission limits	Permit No. 0290-10PC and NSR avoidance
3	VOC	Use of control equipment with a minimum overall emission reduction efficiency of 80%	Permit No. 0290-10PC
4	PM/PM_{10}	Opacity standard	City of Memphis Code Section 16-83 [Reference Rules and Regulations of Tennessee, Rule 1200-3-5-.01]

Emission Limits and Restrictions:

1. The facility owner or operator shall not cause or allow the application of any end sealant compound at EU-5.1 with a VOC content that exceeds 3.7 pounds per gallon of coating as applied, excluding water and/or exempt compounds.

2. The maximum allowable VOC emissions from Compounders No. 34 and 35 (EU-5.1) shall not exceed 1.4 tons per month and 16.45 tons per consecutive 12-month rolling period.

3. The facility owner or operator shall operate EU-5.1 with the use of pollution control equipment. This pollution control equipment shall have a minimum overall VOC emission reduction efficiency of greater than or equal to eighty percent (80%) and be in use whenever Compounder No. 34 or 35 is in operation.

4. Visible emissions from EU-5.1 shall not exceed twenty percent (20%) in opacity for more than five (5) minutes in any one (1) hour period or more than twenty (20) minutes in any twenty-four (24) hour period.

PES-5

EU-5.1
Compounders No. 34 and 35
(Two Compounders with VOC Emission Controls associated with a Multi-Die Press)
(Emission Controls include Enhanced Capture, Induction Heater and Catalytic Oxidizer)

Monitoring and Recordkeeping

Condition	Pollutant	Requirement	Frequency	Cite
1	VOC	Catalyst bed temperature monitoring	Continuous	Permit No. 0290-10PC
2	VOC	Temperature recording accuracy	Continuous	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
3	VOC	Record of 3-hr periods when catalyst bed inlet temperature is > 50°F below the temperature measured during the most recent compliance demonstration	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03 (5)(b)10(ii)]
4	VOC	Compliance assurance monitoring	Various	Permit No. 0290-10PC
5	VOC	Certification and record of VOC-containing material properties	Continuous	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(3)(b)]
6	VOC	VOC-containing material usage records	Monthly	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
Local Only Conditions				
7	VOC	Emission calculations	Monthly	Permit No. 0290-10PC
8	VOC	Control equipment malfunction and maintenance records	Each occurrence	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]

Monitoring and Recordkeeping Requirements:

1. The facility owner or operator shall operate continuous monitoring equipment to monitor the inlet and outlet temperature of the catalyst bed for EU-5.1. The continuous temperature monitoring equipment shall be equipped with a continuous recorder. The monitoring and recording equipment shall be installed, calibrated, operated and maintained according to the manufacturer's specifications at all times the control device is in use.

2. The continuous temperature monitoring equipment for EU-5.1 shall have an accuracy of $\pm$1 percent of the combustion temperature or $\pm$0.5°C, whichever is greater.

PES-5

Monitoring and Recordkeeping Requirements (continued):

3. The facility owner or operator shall maintain records of all three hour periods of operation for which the average temperature measured before the catalyst bed for EU-5.1 is more than 50°F below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalytic oxidizer that demonstrated that the facility was in compliance.

4. The facility owner or operator shall performance test, monitor, inspect and operate the VOC emission control systems associated with EU-5.1 in accordance with the CAM Plan within Appendix C of this permit.

5. The facility owner or operator shall maintain the following certification records on file at the facility:

    a) The name and identification number of each sealant compound, compounder head mist solution, and compound thinner used; and

    b) The mass of VOC per volume (lbs VOC/gal) of each sealant compound, compounder head mist solution, compound thinner, in use (excluding water and/or exempt compounds), as applied

6. The facility owner or operator shall maintain usage records for each VOC-containing material used at EU-5.1 on a monthly basis (e.g. individual sealant compounds, compounder head mist solutions, compound thinners, and clean-up solvents).

Local Only Conditions:

7. The facility owner or operator shall calculate and record monthly and consecutive 12-month rolling VOC emissions from EU-5.1.

8. Preventative maintenance, malfunction and repair records shall be maintained for all air pollution control equipment within EU-5.1.

PES-5

EU-5.1
Compounders No. 34 and 35
(Two Compounders with VOC Emission Controls associated with a Multi-Die Press)
(Emission Controls include Enhanced Capture, Induction Heater and Catalytic Oxidizer)

Notification and Reporting

Condition	Description	Frequency	Cite
1	Notification of instance of noncompliance or change in method of compliance (Compliant coatings)	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(3)(c)]
2	Notification of instance of noncompliance (Emission control equipment)	Each occurrence	City of Memphis Code Section 16-80 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(5)(c)]
3	Monitoring Report	Semi-annually	City of Memphis Code Section 16-85 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10-.04]
4	Capture system verification testing	Quarterly	
5	Catalyst efficiency test reports	Each occurrence	

Notification and Reporting Requirements:

1. The owner or operator shall notify the Department in the following instances:

    a) Any record showing use of any non-complying end sealing compound coat shall be reported by sending a copy of such record to the Department within thirty (30) calendar days following that use; and

    b) At least thirty (30) calendar days before changing the method of compliance from the use of complying end sealing compound coat to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of Subparagraph 1200-3-18-.03(4)(a) or 1200-3-18-.03(5)(a), respectively.

2. The facility owner or operator shall notify the Department of an instance of noncompliance with the applicable requirements for control devices, such instance of noncompliance including any period of operation during which the parameter boundaries established during the most recent performance test are exceeded as specified in City of Memphis Code Section16-80 [Reference Rules and regulations of Tennessee, Rule 1200-3-18-.03(5)(b)10.], by sending a copy of that notice to the Department within thirty (30) calendar days following the occurrence.

3. The facility owner or operator shall submit a report to the Department semi-annually including the following:

    a) Monthly and consecutive 12-month rolling VOC emissions from EU-5.1 for the reporting period;

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Notification and Reporting Requirements (continued):

b) Monthly sealant compound usage at EU-5.1; and

c) A log of catalytic oxidizer malfunctions and all instances of EU-5.1 deviations from permit requirements for the reporting period

Submittal of this report shall coincide with the required Semi-Annual Monitoring Report for this facility (See Facility-Wide Requirements, Reporting Requirements, Condition No. 1).

4. The facility owner or operator shall submit all quarterly capture system verification test results to the Department. Submittal of these results shall coincide with the required Semi-Annual Monitoring Report for this facility (See Facility-Wide Requirements, Reporting Requirements, Condition No. 1).

5. The facility owner or operator shall submit all catalyst efficiency testing reports to the Department within 60 days of test completion.

SECTION V - OTHER REQUIREMENTS

USE OF OZONE DEPLETING SUBSTANCES

1. The permittee shall comply with the standards for labeling of products using ozone depleting substances pursuant to 40 CFR 82 Subpart E:

    a) All containers containing a class I or class II substance being stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106;

    b) The placement of the required warning statement must comply with the requirements pursuant to §82.108;

    c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110; and

    d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82 Subpart F, except as provided for motor vehicle air conditioners (MVAC's) in Subpart B:

    a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156;

    b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158;

    c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161;

    d) Persons disposing of small appliances, MVAC's, and MVAC-like appliances, as defined in §82.152, must comply with the record keeping requirements pursuant to §82.166;

    e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156; and

    f) Owner or operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR 82 Subpart A, Production and Consumption Controls.

4. If the permittee performs a service on motor (fleet) vehicles when this service involves Ozone-Depleting Substances (ODS) refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR 82 Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the airtight sealed refrigeration system used for refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.

5. The permittee shall be allowed to switch from any ODS to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR 82, Subpart G, Significant New Alternatives Policy Program.

OPERATIONAL FLEXIBILITY

The permittee has not requested any specific operational flexibility provisions to be included in addition to that provided in the City of Memphis Code Section 16-77, [Reference 1200-3-9-.02(11)(a)(4)].

COMPLIANCE PLANS AND SCHEDULES

There are no compliance plans or schedules included in this permit.

SECTION VI - GENERAL CONDITIONS

General Permit Conditions for Title V Operating Permits

1. Severability: The requirements of this permit issued pursuant to City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)] are severable. A dispute regarding one or more permit requirements in this permit does not invalidate or otherwise excuse a permittee from their duty to comply with the remaining portion of this permit in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)1(v)].

2. Permit Shield: In accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)6(i)] compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issue, provided:

    a) Such applicable requirements are included and are specifically identified in this permit; or

    b) The Technical Manager, in acting on this permit application or revision, determines, in writing, that other requirements specifically identified are not applicable to the source, and this permit includes the determination or a concise summary thereof; and

    c) The permit shield does not extend to minor permit modifications made pursuant to City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(f)5.(ii)(VI)].

3. Permit Actions for Cause: This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)1(vi)(III)].

4. Circumvention of Regulations: No person shall use any plan, activity, device or contrivance that the Technical Manager determines will, without resulting in an actual reduction of air contaminants, conceal or appear to minimize the effects of an emission that would otherwise constitute a violation of this permit or any applicable requirement.

    Methods considered circumvention of the regulations, as stated in City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.03(2)], include but are not limited to:

    a) Air (or other gases) introduced for dilution purposes only; and

    b) The staggered installation and operation of a facility to avoid coverage by a standard that applies only to operations larger than a specified size.

General Conditions (continued):

5. Creating a Traffic Hazard or Interfering with Public Transportation: No person shall discharge from any source whatsoever such quantities of air contaminant, uncombined water, or other materials which cause or have a tendency to cause a traffic hazard or an interference with normal means of public transportation in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.03(3)].

6. Defense for Noncompliance: The need to halt or reduce activity is not a defense for noncompliance. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this item shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)1(vi)(II)].

7. Compliance Certification: All compliance certifications submitted to the Department shall include the following in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)3(v)(III)]:

    a) The identification of each term or condition of this permit that is the basis of the certification;

    b) The compliance status of each term or condition of this permit during the certification period;

    c) Whether compliance was continuous or intermittent;

    d) The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11) (e)1(iii)] [Monitoring and related record keeping and reporting requirements]; and

    e) Such other facts as the Technical Manager may require for determination of the compliance status of the source.

8. Compliance Certification: All compliance certifications required by this permit shall be submitted to the EPA as well as to the Technical Manager in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)3(v)(IV)].

General Conditions (continued):

9. Compliance Certification: Each compliance certification required by this permit shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Federal Act [Permit Requirements and Conditions: Monitoring and Analysis], and any other compliance requirement deemed necessary by the Technical Manager in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)3(v)(V) and -.02(11)(e)3(vi)].

10. Responsible Official Certification: Any application form, report, or compliance certification submitted pursuant to the requirements of City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)] or this permit shall contain certification by a responsible official of truth, accuracy and completeness. This certification and any other certification required under City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(d)4] shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

11. Enforceability: This permit is issued pursuant to the requirements of Title V of the Federal Act and its implementing Federal regulations promulgated at 40 CFR part 70. As such, the permittee is advised that:

    a) All terms and conditions in this permit including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)]; and

    b) Notwithstanding (a) above, in this permit labeled "local only requirements" the Technical Manager has specifically designated as not being federally enforceable under the Federal Act or under any of its applicable requirements.

    Terms and conditions so designated are not subject to the requirements of City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11) subparagraphs (f) {Permit Issuance, Renewal, Reopening and Revision} and (g) {Permit Review by EPA and Affected States}, other than those contained in part 1200-3-9-.02(11)(e)2].

12. Federal Enforcement; SECTION 113(c)(2) of the Federal Act: Any person who knowingly makes any false material statement, representation, or certification in, or omits material information from, or knowingly alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required pursuant to this Act to be either filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State or the Department); fails to notify or report as required under the Act; or falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required to be maintained or followed under this Act shall, upon conviction, be punished by a fine pursuant to title 18 of the United States Code, or by imprisonment for not more than 2 years, or both.

If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

13. Reasonable Measures Required During Startups, Shutdowns, and Malfunctions: In accordance with City of Memphis Code Section 16-87 [Reference Rules and Regulations of Tennessee, Rule 1200-3-20-.02], Air contaminant sources must take all reasonable measures to keep emissions to a minimum during startups, shutdowns, and malfunctions. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions, and shall be considered in violation of the emission standard exceeded and this rule.

14. Notice Required When a Malfunction Occurs: In accordance with City of Memphis Code Section 16-87 [Reference Rules and Regulations of Tennessee, Rule 1200-3-20-.03], when any air contaminant source malfunctions in such a manner as to cause the emission of air contaminants in excess of the applicable emission standards contained in Division 1200-3 or any permit issued thereto, or of sufficient duration to cause damage to property or public health, the owner or operator of the air contaminant source shall promptly notify the Technical Manager of such malfunction and provide a statement giving all pertinent facts, including the estimated duration of the malfunction. Violations of the visible emission standard (excluding visible emissions caused by hazardous air pollutants named in Chapter 1200-3-11), which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Shelby County Health Department, Pollution Control Section.

    The Technical Manager shall be notified when the malfunction has been corrected. In attainment and unclassified areas if emissions other than from sources designated as significantly impacting on a nonattainment area in excess of the standards will not and do not occur over more than a 24-hour period (or will not recur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required.

    Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Shelby County Health Department, Pollution Control Section and the Emergency Management Agency.

15. Log of Malfunctions, Startups, and Shutdowns: In accordance with City of Memphis Code Section 16-87 [Reference Rules and Regulations of Tennessee, Rule 1200-3-20-.04], a log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in the City of Memphis Air Code, reference 1200-3 of the State of Tennessee Code, or any permit issued thereto must be kept at the facility.

General Conditions (continued):

This log must record at least the following:

a) Stack or emission point involved;

b) Time of malfunction, startup, or shutdown or when first noticed.

c) Type of malfunction and/or reason for shutdown;

d) Time startup or shutdown was complete or time the air contaminant source retumed to normal operation; and

e) The company employee making entry on the log must sign, date and state the time of each log entry.

The information under items (a) and (b) above must be entered into the log by the end of the shift during which the malfunction or startup began. All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected. Any later discovered corrections can be added in the log as footnotes with the reason given for the change.

16. Retention Period for Records and Supporting Information: Records and supporting information required to be maintained by this permit shall be retained for a period of at least five (5) years from the date of the record in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)1(iii)(II)II]. Supporting information includes, but is not limited to, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

17. Monitoring Records: Records of monitoring information required by this permit shall include the following :

a) The date, place as defined in this permit, and time of sampling or measurements;

b) The date(s) analyses were performed;

c) The company or entity that performed the analysis;

d) The analytical techniques or methods used;

e) The results of such analyses; and

f) The operating conditions as existing at the time of sampling or measurement.

General Conditions (continued):

18. Information Requests: In accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)1(vi)(V)], the permittee shall furnish to the Technical Manager, within a reasonable time, any information that the Technical Manager may request in writing to determine whether cause exists for modifying, revoking and reissuing, or termination of this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Technical Manager copies of records required to be kept by this permit. If the permittee claims that such information is confidential, the Technical Manager may review that claim and hold the information in protected status until such time that the Board can hear any contested proceedings regarding confidentiality disputes. If the Administrator (EPA) desires the information, the permittee may mail the information directly to the EPA.

19. Access to Premises, Records, and Inspections: Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Technical Manager or his authorized representative to perform the following for the purposes of determining compliance with the applicable permit requirements in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)3(ii)]:

    a) Enter upon the permittee's premises at reasonable times where a source subject to City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)] is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

    b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

    c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

    d) As authorized by City of Memphis Code Section 16-85, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

    Reasonable times" shall be considered to be customary business hours unless reasonable cause exists to suspect noncompliance with the Act, City of Memphis Code, Division 1200-3, or any permit issued pursuant thereto and the Technical Manager specifically authorizes an inspector to inspect a facility at any other time.

General Conditions (continued):

20. Permit Availability and Display: The owner or operator shall maintain this operating permit readily available for inspection by the Technical Manager or his/her designated representative on the operating premises. A person required by regulations to have one or more operating permits shall keep at least one operating permit prominently and conspicuously displayed on the operating premises in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(5)].

21. Emergency Orders, Liabilities, and Acid Rain: Nothing in this permit issued pursuant to City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)6(iii)] shall alter or affect the following:

    a) The provisions of section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section. Similarly, the provisions of T.C.A. 68-201-109 (emergency orders) including the authority of the Governor under City of Memphis Code Section 16-59 including the authority of the Health Officer under the section;

    b) The liability of the owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issue;

    c) The applicable requirements of the acid rain program, consistent with section 408(a) [Permits and Compliance Plans: Permit Program] of the Federal Act; or

    d) The ability of EPA and the Department to obtain information from a source pursuant to section 114 [Recordkeeping, Inspection, Monitoring, and Entry] of the Federal Act.

22. Emergency Provisions: In accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)7] an "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology based emission limitation under this permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

    An emergency constitutes an affirmative defense to an enforcement action brought against a source for noncompliance with such technology based emission limitations if the following are met.

    a) The affirmative defense of the emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

General Conditions (continued):

i. An emergency occurred and that the permittee can identify the probable cause(s) of the emergency. "Probable" must be supported by a credible investigation into the incident that seeks to identify the causes and results in an explanation supported by generally accepted engineering or scientific principles;

ii. The permitted facility was at the time being properly operated. In determining whether or not a facility was being properly operated, the Technical Manager shall examine the source's written standard operating procedures that were in effect at the time of the noncompliance and any other code as detailed below that would be relevant to preventing the noncompliance. Adherence to the source's standard operating procedures will be the test of adequate preventative maintenance, careless operation, improper operation or operator error to the extent that such adherence would prevent noncompliance. The source's failure to follow recognized standards of practice to the extent that adherence to such a standard would have prevented noncompliance will disqualify the source from any claim of an emergency and an affirmative defense. The Department will specifically recognize the National Fire Protection Association codes, the codes of the American National Standards Institute, the codes of the American Society of Testing Materials, the codes of the United States Department of Transportation, the codes of the United States Occupational Safety and Health Administration and any State of Tennessee statute or regulation if applicable.

Recognition of these codes, statutes, regulations and standards of practice is limited to the test of determining whether or not a facility was operated properly for the purposes of preventing actual (not potential) noncompliance and in no way should it be viewed as the Department's imposition of the standards administered by other agencies, Boards, or organizations;

iii. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in this permit; and

iv. The permittee submitted notice of the emergency to the Technical Manager according to the notification criteria for malfunctions in City of Memphis Code Section 16-87 [Reference Rules and Regulations of Tennessee, Rule 1200-3-20-.03]. For the purposes of this item in City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)7(iii)(IV)], "emergency" shall be substituted for "malfunctions(s)" in rule 1200-3-20-.03 to determine the relevant notification threshold. The notice shall include a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

General Conditions (continued):

b) In any enforcement proceeding this permittee seeking to establish the occurrence of an emergency has the burden of proof; and

c) These provisions are in addition to any emergency, malfunction or upset requirement contained in this permit, City of Memphis Code, Division 1200-3, or other applicable requirement.

23. Air Pollutant Episode Emissions Reduction Plan: This source may be required to submit an acceptable air pollutant episode emissions reduction plan in accordance with City of Memphis Code Section 16-60 [Reference Rules and Regulations of Tennessee, Rule 1200-3-15] detailing steps that can be taken to relieve a health hazard in the event that the Technical manager declares an air pollution alert, air pollution warning, or air pollution emergency. In the event that this plan is required, the source shall be notified in writing, and shall have thirty days to submit required the plan.

24. Air Pollution Alerts, Warnings, and Emergencies: In the event that the Technical Manager declares an air pollution alert, air pollution warning, or air pollution emergency, this source may be required to cease, curtail, postpone or defer production and allied operations to the extent possible without causing injury to persons or damage to equipment in accordance with City of Memphis Code Section 16-60 [Reference Rules and Regulations of Tennessee, Rule 1200-3-15].

25. Duty to File Accidental Release Plans:
Pursuant to City of Memphis Code Section 16-91.4 [Reference Rules and Regulations of Tennessee, Rule 1200-3-32-.03]:

a) Sources which are subject to the provisions of Section 112(r) of the federal Clean Air Act or any federal regulations promulgated thereunder, must file a copy of any plan or submittal required therein with the Technical Manager. If such a source is subject to the permitting requirements of Paragraph 1200-3-9-.02(11) and has failed to timely file their plan with the United States Environmental Protection Agency, the Technical Manager shall place them on a schedule of compliance to develop and file the plan. The schedule of compliance shall be placed on the source's operating permit consistent with the provisions of Subpart 1200-3-9-.02(11)(e)3(iii).

b) The Technical Manager is specifically authorized to request information from sources for the purpose of determining whether or not they are subject to Section 112(r) of the federal Clean Air Act or any federal regulations promulgated thereunder.

c) Sources that have filed an accidental release plan shall annually certify in writing to the Technical Manager that they are properly following their accidental release plan. The annual certification is due in the office of the Technical Manager no later than January 31 of each year. Said certification will be for the preceding calendar year.

General Conditions (continued):

26. Operational Flexibility: In accordance with City of Memphis Code Section 16-77 [1200-3-9-.02(11)(a)4] the owner or operator may make certain changes at their facility that are contrary to or not addressed by this permit. The following changes can be made by the permittee without requiring a permit revision, if the changes are not modifications under Title I of the Federal Act or Division 1200─3 and the changes do not exceed the emissions allowable under this permit (whether expressed therein as a rate of emissions or in the terms of total emissions), provided, that the facility provides the Administrator and Technical Manager with written notification as required below in advance of the proposed changes, which shall be a minimum of 7 days. The Technical Manager may waive the 7-day advance notice in instances where the source demonstrates in writing that an emergency necessitates the change. Emergency shall be demonstrated by the criteria of City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)7] (Emergency Provisions) and in no way shall it include changes solely to take advantages of an unforeseen business opportunity.

The source, Technical Manager and EPA shall attach each such notice to their copy of the relevant permit.

a) The owner or operator may make a Section 502(b)(10) [as described above in this condition] change if their written notification contains a brief description of the change within the permitted facility; specifies the date on which the change will occur; declares any change in emissions; and declares any permit term or condition that is no longer applicable as a result of the change.

These permit shield provisions of City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)6] shall not apply to Section 502(b)(10) changes; and

b) The source may make operational flexibility changes that are not addressed or prohibited by this permit without a permit revision subject to the following requirements:

i. The change cannot be subject to a requirement of Title IV of the Federal Act or City of Memphis Code Section 16-91.2 [Acid Precipitation Standard];

ii. The change cannot be a modification under any provision of Title I of the Federal Act or Division 1200-3;

iii. Each change shall meet all applicable requirements and shall not violate any existing permit term or condition;

General Conditions (continued):

iv. The owner or operator must provide contemporaneous written notice to the Technical Manager and EPA of each such change, except for changes that are below the threshold of insignificant activities and emission levels that are specified in City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.04];

v. Each change shall be described in the notice including the date, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change;

vi. The change shall not qualify for a permit shield under the provisions of City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)6]; and

vii. The permittee shall keep a record describing the changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes. The records shall be retained until the changes are incorporated into subsequently issued permits.

27. Construction Permits: In accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.01(1)(a)], no person shall begin the construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants without first having applied for and received from the Technical Manager a construction permit for the construction or modification of such air contaminant source, except as specifically exempted in Rule 1200-3-9-.04 or excluded in subparagraph 1200-3-2-.01(1)(aa) or subparagraph 1200-3-2-.01(1)(cc).

28. Construction Permits: In accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.01(1)(b)], the application for a construction permit shall be made on forms available from the Technical Manager not less than ninety (90) days prior to the estimated starting date of construction. Sources identified in Paragraph 1200-3-9-.01(4) shall make application for a construction permit not less than one hundred twenty (120) days prior to the estimated date of construction.

29. New Construction or Modifications: Construction or modification at this source that is subject to the provisions of City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.01] shall be governed by the following:

a) The permittee shall designate in their construction permit application the route that they desire to follow for the purposes of incorporating the newly constructed or modified sources into their existing operating permit. The Technical Manager shall use that information to prepare the operating permit application submittal deadlines in their construction permit;

General Conditions (continued):

b) Sources desiring the permit shield shall choose the administrative amendment route of City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(f)4] or the significant modification route of City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(f)5(iv)]; and

c) Sources desiring expediency instead of the permit shield shall choose the minor permit modification procedure route of City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(f)5(ii)] or group processing of minor modifications under the provisions of City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(f)5(iii)] as applicable to the magnitude of their construction. (Reference City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-03-09-.02(11)(d) 1(i)(V)]).

30. Permit Renewal and Expiration: In accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(d)1(i)(III)], a timely renewal application is one that is submitted at least 180 days, but no more than 270 days prior to the expiration date of this major source operating permit. In accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(f)3] permits that are being renewed are subject to the same procedural requirements, including those for public participation, affected State and EPA review, that apply to initial permit issuance. Consistent with the provisions of City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(a)2] permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(f)2] (Requirement for a Permit) and item 1200-3-9-.02(11)(d)1(i)(III)].

31. Permit Application Errors: The owner or operator of this source has a duty to supplement or correct their application upon discovery that their application was incorrect or failed otherwise to address any facts relevant to permitting at the source. The applicant must also provide additional information As required to address any requirements that become applicable to the source after the date that it has filed a complete application but prior to the release of a draft permit. City of Memphis Code Section 16-77 [1200-3-9-.02(11)(d)2.]

32. Permit Transference: This permit is not transferable from one person to another person, nor from one air contaminant source to another air contaminant source, nor from one location to another location in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.03(6)].

33. Changes Not Requiring Permit Modification: The owner or operator of any air contaminant source to which any of the following changes are made, but would not be a modification requiring a construction permit, must notify the Technical Manager thirty (30) days before the change is commenced.

General Conditions (continued):

City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(7)] defines these changes as:

a) Change in air pollution control equipment;

b) Change in stack height or diameter; and

c) Change in exit velocity (of more than twenty five (25%) percent) or exit temperature of more than fifteen (15%) percent (absolute temperature basis).

34. New Applicable Requirements: Additional applicable requirements under the Clean Air Act become applicable to a major part 70 source with a remaining permit term of three (3) or more years. Such a permit reopening shall be completed not later than 18 months after promulgation of the applicable requirement.

No such reopening of the permit is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 70.4(b)(10)(i) or (ii).

35. Emissions Testing: The owner or operator may be required to conduct or have conducted at his expense, tests to determine the emission level of specific air contaminants. Such tests shall be conducted in a manner approved by the Technical Manager. The Department requires a 30-day notice of the scheduling of emissions tests in order that such tests are conducted in the presence of a representative in accordance with City of Memphis Code Section 16-85.

36. Asbestos: Prior to the commencement of a demolition or renovation project involving asbestos, the owner or operator shall comply with the requirements of City of Memphis Code Section 16-81, [Reference Rules and Regulations of Tennessee, Rule 1200-3-11-.02(2)(d)]. No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. Disposal of asbestos shall be performed in accordance with City of Memphis Code Section 16-81 [Reference Rules and Regulations of Tennessee, Rule 1200-3-11-.02(2)(j)].

37. Open Burning: The open burning of residential, commercial, institutional, or industrial solid waste is prohibited except as specified in this permit or in City of Memphis Code Section 16-50.

38. Fees: The permittee shall pay fees in accordance with City of Memphis Code Sections 16-93 and 16-94.

39. Property Rights: This permit does not convey any property rights of any sort, or any exclusive privilege in accordance with City of Memphis Code Section 16-77 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)(e)1(vi)(IV)].

APPENDIX A

Insignificant and Exempt Activities

Insignificant and Exempt Activities

No.	Source Identification	City of Memphis Code Section 16-77 (Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.04…)
1	Temporary storage tanks for sealant compounds, coatings and lubricants with a capacity of less than 10,000 gallons	(4)(d)(12)
2	Combustion units designed and used exclusively for comfort heating purposes employing liquid petroleum gas or natural gas as fuel	(5)(f)(14)
3	Laboratory equipment, used for research and development or for chemical and physical analyses, including ventilating and exhaust systems for laboratory hoods used for air contaminants	(5)(f)(19)
4	Equipment used for the inspection of metal products	(5)(f)(20)
5	Portable hand operated soldering or welding equipment	(5)(f)(21)
6	Electrically heated equipment used exclusively for heat treating or surface conditioning of metal objects	(5)(f)(27)
7	Equipment used exclusively for the pressing and stamping of metals	(5)(f)(54)
8	Parts washers using a non-halogenated solvent with a vapor pressure of less than 1.52 psia	(5)(f)(76)
9	Plant maintenance and upkeep activities	(5)(g)(13)
10	Batteries and battery charging stations	(5)(g)(19)
11	Propane powered fork lifts	(5)(a)4(i)

APPENDIX B

Applicable Requirements
(Regulatory Overview Tables)

Sonoco Products Company
Title V Operating Permit No. 00290-01TV(R) (7-26-16)
Federal Applicable Requirements Overview

CFR Part	Description	Applicable Req.	Notes
40 CFR 50.1 — 50.19	National Primary and Secondary Ambient Air Quality Standards	Yes	Contains general requirements
40 CFR 52.21	Prevention of Significant Deterioration of Air Quality	Yes	Contains general requirements for PSD sources
40 CFR 54	Prior Notice of Citizen Suits	Yes	Contains general requirements
40 CFR 60 (Subpart TT)	Standards of Performance for Metal Coil Surface Coating	Not Applicable (NA)	The provisions of this subpart apply to metal coil surface coating operations where an organic coating is applied to the surface of any continuous metal strip with thickness of 0.15 millimeters (0.006 inches.) or more that is packaged in a roll or coil. The coil coated at this facility meets neither of the requirements of this subpart because it has a thickness <0.006 inches and is not packaged in a roll or coil.
40 CFR 60 (Subpart WW)	Standards of Performance for Beverage Can Surface Coating Industry	NA	The provisions of this subpart apply to the following affected facilities in beverage can surface coating lines: each exterior base coat operation, each over-varnish coating operation, and each inside spray coating operation. The can ends made at this facility are not for use as part of a beverage can, therefore, end sealant application is not affected by this subpart. A "beverage can" under this subpart is defined as any two-piece steel or aluminum container in which soft drinks or beer, including malt liquor, are packaged.
40 CFR 63 (Subpart MMMM)	National Emission Standards for Hazardous Air Pollutant Emissions for Misc. Metal Parts and Products (Surface Coating)	NA	Not applicable because this Sonoco facility is NOT a major source of HAPs
40 CFR 63 (Subpart HHHHH)	National Emission Standards for Hazardous Air Pollutant Emissions for Misc. Coating Manufacturing	NA	Not applicable because this Sonoco facility is NOT a major source of HAPs
40 CFR 64	Compliance Assurance Monitoring	Yes	Applicable to PES-1 and PES-4. Although the Department acknowledges that PES-2 (EU-2.2, 2.3 and 2.4), PES-3 and PES-5 are not subject to 40 CFR part 64 requirements, based on Sonoco calculations; the Department requires enhanced monitoring as authorized under City of Memphis Code Section 16-85 due to the NSR/PSD avoidance nature of the associated VOC emission limits.
40 CFR 66	Assessment and Collection of Noncompliance Penalties by EPA	Yes	Contains general requirements
40 CFR 70	State Operating Permit Programs	Yes	Contains general requirements for Title V major source operating permits

40 CFR 82 (Subpart A)	Protection of Stratospheric Ozone — Production and Consumption Controls	Yes	Contains general requirements regarding the use of ozone depleting substances
40 CFR 82 (Subpart B)	Servicing of Motor Vehicle Air Conditioners	Yes	
40 CFR 82 (Subpart C)	Ban on Nonessential Products Containing Class I Substances and Ban on Nonessential Products Containing or Manufactured with Class II Substances	Yes	
40 CFR 82 (Subpart D)	Federal Procurement	Yes	
40 CFR 82 (Subpart E)	The Labeling of Products Using Ozone Depleting Substances	Yes	
40 CFR 82 (Subpart F)	Recycling and Emissions Reduction	Yes	
40 CFR 82 (Subpart G)	Significant New Alternatives Policy Program (SNAP)	Yes	

Sonoco Products Company
Title V Operating Permit No. 00290-01TV(R) (7-26-16)
State and Local Applicable Requirements Overview

TDEC/Shelby/Memphis	Description	Applicable Req.	Notes
CHAPTER 1200-3-2(3-1A)(16-46)	**DEFINITIONS**		
1200-3-2-.01	General Definitions	Not Applicable (NA)	Defines terms used in chapter
1200-3-2-.02	Abbreviations	NA	General applicability
CHAPTER 1200-3-3(3-6)(16-49)	**AMBIENT AIR QUALITY STANDARDS**		
1200-3-3-.01	Primary Air Quality Standard	Yes	Contains general requirements
1200-3-3-.02	Secondary Air Quality Standard	Yes	Contains general requirements
1200-3-3-.03	Tennessee's Ambient Air Quality Standard	Yes	Contains general requirements
1200-3-3-.04	Nondegradation Standard	Yes	Contains general requirements
1200-3-3-.05	Achievement	Yes	Contains general requirements
CHAPTER 1200-3-5(3-17)(16-83)	**VISIBLE EMISSIONS**		
1200-3-5-.01	General Standards	Yes	Contains specific requirements applicable to PES-1 through PES-5
1200-3-5-.02	Exceptions	Yes	Contains general requirements
1200-3-5-.03	Method of Recording	Yes	Contains specific requirements applicable to PES-1 through PES-5
1200-3-5-.04	Exemption	Yes	Contains general requirements
CHAPTER 1200-3-6(3-21)(16-79)	**NON-PROCESS EMISSION STANDARDS (PM)**		
1200-3-6-.01	General Non-Process Emissions	NA	Combustion gases from the burners associated with the PES-1 thermal oxidizer and PES-2 and PES-4 catalytic oxidizers are comingled with process emissions, therefore they are subject to the process emission standards in City of Memphis Code Section 16-78. Remaining catalytic units and end drying ovens at the facility are electrically powered. PM emissions from this facility are negligible.
1200-3-6-.02	Non-Process Particulate Emission Standards	NA	
CHAPTER 1200-3-7(3-20)(16-78)	**PROCESS EMISSION STANDARDS (PM)**		
1200-3-7-.01	General Process Particulate Emission Standards	Yes	Contains general requirements
1200-3-7-.03	New Processes	Yes	Contains specific requirements applicable to PES-1 through PES-5. PM emissions from this facility are negligible.
1200-3-7-.04	Limiting Allowable Emissions	Yes	Contains specific requirements applicable to PES-1 through PES-5. PM emissions from this facility are negligible.

1200-3-9-.01	Construction Permits	Yes	Contains specific requirements. General rules for new construction and modifications apply and are included in the general conditions section of this permit. Paragraph (5) of this rule includes "Growth Policy" BACT requirements applicable to PES-5. Enhanced localized end conveyance VOC emission capture, an enclosed induction heater and a catalytic oxidizer are sufficient for "Growth Policy" BACT. This facility is classified as a NSR source due to allowable VOC emissions, but this permit action does not trigger new source review.
1200-3-9-.02	Operating Permits	Yes	Contains general requirements
1200-3-9-.03	General Provisions	Yes	Contains general requirements
1200-3-9-.04	Exemptions	Yes	Contains general requirements
1200-3-9-.05	Appeal of Permit Application Denials and Permit Conditions	Yes	Contains general requirements
CHAPTER 1200-3-10(3-7)(16-85)	**REQUIRED SAMPLING, RECORDING, AND REPORTING**		
1200-3-10-.01	Sampling Required to Establish Air Contaminant Emissions Levels	Yes	Contains general requirements
1200-3-10-.02	Monitoring of Source Emissions, Recording and Reporting of Same are Required	Yes	Contains general requirements
1200-3-10-.04	Sampling, Recording and Reporting Required for Major Stationary Sources	Yes	Contains general requirements
CHAPTER 1200-3-12(3-8)(16-86)	**METHODS OF SAMPLING AND ANALYSIS**		
1200-3-12.01	General	Yes	Contains general requirements
1200-3-12-.03	Source Sampling and Analysis	Yes	Contains general requirements
CHAPTER 1200-3-15(3-14)(16-60)	**EMERGENCY EPISODE PLAN**		
1200-3-15-.01 and .02	Purpose and Episode Criteria	Yes	Applicable for providing the definition of purpose and terms
1200-3-15-.03	Required Emissions Reduction	Yes	Contains general requirements
CHAPTER 1200-3-14(3-24)(16-82)	**SULFUR OXIDE EMISSIONS**		
1200-3-14-.01	General Provisions	Yes	Contains general requirements
1200-3-14-.03	Process Emission Standards	Yes	Combustion gases from the burners associated with the PES-1 thermal oxidizer and PES-2 and PES-4 catalytic oxidizers are comingled with process emissions, therefore they are subject to the process emission standards in City of Memphis Code Section 16-82. Remaining catalytic units and end drying ovens at the facility are electrically powrered.

CHAPTER 1200-3-18(3-22)(16-80)	VOLATILE ORGANIC COMPOUNDS		
1200-3-18-.01	Definitions	Yes	Contains general requirements
1200-3-18-.02	General Provisions and Applicability	Yes	Contains general requirements
1200-3-18-.03	Compliance Certification, Record Keeping, and Reporting Requirements for Coating and Printing Sources	Yes	Contains general requirements
1200-3-18-.06	Handling, Storage, and Disposal of Volatile Organic Compounds (VOCs)	Yes	Contains general requirements
1200-3-18-.12	Can Coating	Yes	Contains specific requirements applicable to PES-1 through PES-5. Sheet basecoat VOC content is limited to 2.8 lbs/gal and can end sealing compound VOC content is limited to 3.7 lbs/gal (excluding water and exempt compounds).
1200-3-18-.13	Coil Coating	NA	The coil at this facility is cut into a sheet prior to coating (PES-1) and the metal has a thickness <0.006 inches, therefore this rule is not applicable.
1200-3-18-.20	Coating of Miscellaneous Metal Parts	NA	This rule applies to any miscellaneous metal parts and products coating line. This rule does not apply to the coating of metal parts and products that are covered by other rules of this chapter, therefore conventional coating and compounding operations are not affected by this rule. They are subject and affected by Rule 1200-3-18-.12.
1200-3-18-.79	Other Facilities that Emit Volatile Organic Compounds (VOC) of 100 tons/year	NA	This rule applies to any source that has potential VOC emissions of 100 tons or more per calendar year. Any sources subject to standards in Rules 1200-3-18-.11 through 1200-3-18-.77 of this chapter are excluded; therefore conventional coating and compounding operations are not affected by this rule. They are subject and affected by Rule 1200-3-18-.12.
1200-3-18-.80	Test Methods and Compliance Procedures: General Provisions	Yes	Contains specific requirements applicable to PES-1 through PES-5
1200-3-18-.81	Test Methods and Compliance Procedures: Determining the VOC Content of Coatings and Inks	Yes	Contains specific requirements applicable to PES-1 through PES-5
1200-3-18-.82	Test Methods and Compliance Procedures: Alternative Compliance Methods for Surface Coating	Yes	Contains specific requirements applicable to PES-1 through PES-5
1200-3-18-.83	Test Methods and Compliance Procedures: Emission Capture and Destruction of Removal Efficiency and Monitoring Requirements	Yes	Contains specific requirements applicable to PES-1 through PES-5
1200-3-18-.84	Test Methods and Compliance Procedures: Determining the Destruction or Removal Efficiency of a Control Device	Yes	Contains specific requirements applicable to PES-1 through PES-5

CHAPTER 1200-3-20(3-9)(16-87)	**LIMITS ON EMISSIONS DUE TO MALFUNCTIONS, STARTUPS, AND SHUTDOWNS**		
1200-3-20-.02	Reasonable Measures Required	Yes	Contains general requirements
1200-3-20-.03	Notice Required When Malfunction Occurs	Yes	Contains general requirements
1200-3-20-.04	Logs and Reports	Yes	Contains general requirements
1200-3-20-.05	Copies of Logs Required	Yes	Contains general requirements
1200-3-20-.06	Report Required Upon the Issuance of a Notice of Violation	Yes	Contains general requirements
1200-3-20-.07	Special Reports Required	Yes	Contains general requirements
1200-3-20-.08	Rights Reserved	Yes	Contains general requirements
1200-3-20-.09	Additional Sources Covered	Yes	Contains general requirements
CHAPTER 1200-3-24(3-40)(16-52)	**GOOD ENGINEERING PRACTICE STACK HEIGHT REGULATIONS**		
1200-3-24-.01	General Provisions	Yes	Contains general requirements
1200-3-24-.02	Definitions	Yes	General applicability
1200-3-24-.03	Good Engineering Practice Stack Height Standards	Yes	Contains general requirements
1200-3-24-.04	Specific Emission Standards	Yes	Contains general requirements
CHAPTER 1200-3-32(3-38)(16-91.4)	**PREVENTION OF ACCIDENTAL RELEASES**		
1200-3-32-.01	Purpose and Intent	Yes	Contains general requirements
1200-3-32-.02	Definitions	Yes	Contains general requirements
OTHER (LOCAL ONLY)			
(3-2)(16-56)	Enforcement - Violations of Chapter - Notice; Citation; Injunctive Relief	Yes	Contains general requirements
(3-3)(16-57)	Penalties - Misdemeanor, Civil, and Noncompliance	Yes	Contains general requirements
(3-4)(16-59)	Enforcement - Emergency Powers of Health Officer	Yes	Contains general requirements
(3-10)(16-58)	Enforcement - Variances	Yes	Contains general requirements
(3-11)(16-51)	Severability	Yes	Contains general requirements
(3-12)(16-48)	Words, Phrases Substituted in State Regulations Adopted by Reference	Yes	Contains general requirements
(3-13)(16-61)	Right Of Entry	Yes	Contains general requirements
(3-16)(16-50)	Open Burning	Yes	Contains general requirements
(3-18)(16-89)	Fugitive Dust	Yes	Contains general requirements
(3-19)(16-88)	Nuisance Abatement	Yes	Contains general requirements

(3-35)(16-71)	Created; Membership; Term of Office; Jurisdiction; Hearings; Appeals	Yes	Contains general requirements
(14.5-27-28, 30-32, 34-36)(16-93 through 100)	Permits and Fees (Various)	Yes	Contains general requirements
(14.5-35)(16-101)	Penalty Provisions	Yes	Contains general requirements
(14.5-36)(16-102)	Annual Review of Fee Structure and Financial Need	Yes	Contains general requirements

APPENDIX C

Compliance Assurance Monitoring Plan
(CAM Plan)

May 2021

SONOCO PRODUCTS COMPANY

PRESIDENTS ISLAND FACILITY

2755 HARBOR AVENUE

MEMPHIS, TENNESSEE 38113

COMPLIANCE ASSURANCE MONITORING PLAN

PERMIT ID 00290-01TV

PREPARED BY:

Sonoco Global Environmental Services

May 7, 2021

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Sonoco Products Company

Presidents Island, TN Permit ID 00290-01TV

CAM Plan Revision Log

DATE	DESCRIPTION	BY
12/18/09	New	G7
3/16/16	Updated to include PES-5	G7
2/27/17	Administrative Amendment	G7
1/15/18	Added corrective action steps if unfavorable test results; synchronized/clarified schedule of catalyst testing for PES-5	G7
2/8/18	PES 4 addendum - one time adjustment to testing schedule due to recent catalyst replacement	G7
1/23/21	Updated for Title V renewal with most recent (2019) PES-4 performance test values	P. Davis Sonoco
4/27/21	Revised/streamlined format; catalyst replacement approach for PES-4 made similar to PES-3; added performance test to summary table for PES-2 and PES-5; added revision log; provided consistency of language where appropriate	P. Davis Sonoco

INTRODUCTION

In accordance with 40 CFR Part 64–Compliance Assurance Monitoring (CAM), Sonoco Products Company (Sonoco PI) located at 2755 Harbor Avenue, Memphis, Tennessee (Shelby County) is adopting this CAM plan update for the control systems associated with Emission Sources Units known as PES-1 (Conventional Coating), PES 2.2, 2.3 and 2.4 (Compounders #8, #9 and #10), PES-3.1 (Compounders #23 and #24) PES-4.2 (Compounders #29-32) and PES-5.1 (compounders #34 and #35).

Although CFR 40 Part 64, paragraph 2(a)(3) exempts PES 2.2, 2.3 and 2.4, PES-3.1, and PES-5.1 because each has an uncontrolled Potential To Emit (PTE) of less than 100 tons per year, they have been included in this CAM plan because they are maintained under the same standard operating procedures as PES-1 and PES-4.

VOCs from PES-1 (the coater and curing oven) are captured in the total enclosure and directed through a thermal oxidizer for destruction. The heat generated in the thermal oxidizer is recycled through a heat exchange system to heat the dryer and pre-heat the captured VOCs before they enter the incinerator. Combustion products are emitted to the atmosphere through a stack.

The catalytic oxidizers associated with compounders 8, 9, 10, 29-32, 23-24 and 34-35 (PES-2, 2, 2.3, 2.4, 3.1, 4.2 and 5.1) are operated in conjunction with VOC collection systems. Five oxidizers utilize structured bed catalyst modules for PES-2, 2, 2.3, 2.4, 4.2 and 5.1, while PES-3.1 uses a fluid bed catalyst. The presence of a significant exotherm, as indicated by a significant rise in oxidizer outlet temperature, demonstrates VOC combustion to achieve a minimum overall destruction efficiency of 80% as required by Air Operating Permit 0290-01TV and demonstrated through approved performance testing.

Summary tables of the monitoring indicators, performance testing, and catalyst testing/replacement are provided in the attachments at the end of this document.

PES-1 CONVENTIONAL COATER (EU 1.1)

The following monitoring approach ensures that the control system is functioning appropriately:

Indicator 1: Temperature Monitoring of Thermal Oxidizer

The combustion temperature in the oxidizer is continuously monitored by a Programmable Logic Controller (PLC) interlocked with the sheet feeder which will automatically shut down the unit if the oxidizer temperature drops below the shut-down temperature. The shutdown temperature is set at 1300°F. Operating temperature recordings will be reviewed by the Maintenance Department Manager and initialed weekly.

Justification: Title V Operating Permit No 0290-01TV requires that the oxidizer temperature set-point be maintained at >1300°F.

Indicator 2: Performance Testing

Testing of the incinerator for destruction efficiency will be performed within eight years of the most recent test that demonstrated compliance. The test will be performed by the end of the same month as the previous test.

Justification: Verification of destruction efficiency is through EPA approved test methods

Indicator 3: Total Enclosure Verification

There are two NDOs with this enclosure: the opening for sheet feeding to the coater and the opening for coated and cured sheets to exit the enclosure. The overall integrity of the enclosure is confirmed by measuring the average facial velocity through NDOs.

- Verification that the average Facial Velocity (FV) of air through all NDOs is at least 200 ft/minute. The air flow velocity into the enclosure is measured monthly.
- The continuous inward flow of air shall be verified using streamers, smoke tubes, or tracer gases. (Reference EPA Method 204). Verification of the Total Enclosure integrity is performed quarterly.
- All access doors and windows whose areas are not included in the NDOs shall be closed during routine operation of the process.

Justification: The total area of all Natural Draft Openings (NDOs) does not exceed five percent (5%) of the surface area of the enclosure's four walls, floor, and ceiling. The total area of the NDOs is less than 1% of the surface area of the enclosure per EPA Method 204, paragraph 5.3. NDO facial velocity into the enclosure will equal or exceed 3,600 cfm (200 fpm) per EPA Method 204, paragraph 5.4.

Indicator 4: Periodic Inspections/ Preventive Maintenance

Preventative Maintenance (PM) of the thermal oxidizer including, at a minimum, a check of the burner assembly, damper valves, and auto-shutdown interlock is performed annually.

Visible emissions monitoring of the thermal oxidizer exhausts is performed quarterly. If the quarterly visual observation indicates the presence of visible emissions, then a visual determination of opacity, in accordance with the provisions of EPA Method 9, shall be made and recorded within one (1) week of discovery

Inspection of control system ductwork (holes, excessive rust, etc.) is performed quarterly.

PES-2 COMPOUNDER CONTROLS (EU 2.2, 2.3, and 2.4)

Compounders 8, 9, 10

The following monitoring approach ensures that the control systems are functioning properly:

Indicator 1: Temperature Monitoring

Catalytic Oxidizer: Presses associated with these control systems have a Programmable Logic Controller (PLC) interlocked with the press and compound applicator that will automatically shut down the unit if the oxidizer inlet temperature drops below the shut-down temperature during operation. The shut-down temperature is set at 50°F below the operating set point.

Justification: The operating inlet temperature set-point is the inlet temperature maintained during the most recent successful performance test. Shelby County Code Section 3-22 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(5)(b)(10)] requires records demonstrate the average temperature measured upstream of the catalyst bed is no more than 50°F lower than the gas stream temperature measured upstream of the catalyst bed during the most recent successful compliance demonstration of the destruction efficiency of the oxidizer. If subsequent in-situ performance testing is successful at a higher or lower oxidizer inlet temperature the minimum oxidizer inlet operating temperature may be adjusted accordingly.

Most recent test information can be found in Attachment B.

Verification of Exotherm: Chart recordings of the catalyst temperatures will be evaluated using the following parameters:

- Continuous monitoring and recording of the oxidizer inlet and outlet temperatures (at least one measurement set taken and recorded every 15 minutes).
- The increase in temperature of the exhaust of the catalyst bed during application of end seal compound application will be compared to the temperature increase recorded during the most recent successful performance test of that unit under comparable operating conditions. An Exotherm that is within fifty degrees F (50°F) of the reference exotherm will be indicative of adequate VOC destruction (catalyst activity).
- An extended trend of reduced temperature rise (exotherm), not caused by differences in the rate of end seal compound application, in excess of thirty degrees F (30°F) will be cause for review (inspection and indicated maintenance) of the unit.
- Recordings of catalyst inlet and outlet temperatures will be evaluated by the Maintenance Department Manager and initialed weekly.

Justification: The oxidizer temperature at the inlet of the catalyst bed along with a measurable increase in temperature across the catalyst bed is indicative of an exothermic oxidation, which is in turn indicative of performance.

Indicator 2: Performance Testing

Testing of the oxidizer(s) for destruction efficiency will be performed within six years of the most recent test that demonstrated compliance. The test will be performed by the end of the same month as the previous test. The catalyst module with the most running hours since testing or replacement will be tested. Catalyst bed module testing will not be required in years that in-situ performance testing is conducted.

Justification: Verification of destruction efficiency is through EPA approved test methods.

Most recent test information can be found in Attachment B.

Indicator 3: Catalyst Testing

Catalyst module testing on the unwashed catalyst of one of the systems in PES-2, for catalyst combustion efficiency will be performed every two years, not to exceed 30 months apart. The catalyst module with the most running hours since testing or replacement will be tested. Destruction efficiencies are compared to most recent performance test results to determine if acceptable removal is achieved. Records of the catalyst test results will be maintained.

In the event catalyst module activity testing indicates insufficient destruction, Sonoco will take one of the following corrective actions.

a) Replace with new, fresh catalyst
   - Adjust the temperature to coincide with the laboratory test temperature which produced the desired removal efficiency until catalyst can be replaced, then will resort back to most recent corresponding performance test set point temperature.
   - Catalysts for all three units will be on the same replacement schedule if one unit's test indicates it is below expected performance

Or

b) Conduct a performance test to determine new set point. Temperature will be adjusted in accordance with the catalyst test results until such time as the performance can be completed

Justification: Catalyst modules are tested through a range of temperatures including within 10°F of the operating inlet temperature set-point. The operating inlet temperature set-point is the inlet temperature maintained during the most recent successful performance test. Destruction efficiencies necessary to achieve overall destruction efficiency are determined by performance test results. "Overall emission reduction efficiency" can be calculated as the product of the capture efficiency and the control device destruction or removal efficiency, as defined in Shelby County Code 3-22 [Reference TN 1200-3-18-01 (52].

Most recent test information can be found in Attachment B.

Indictor 4: Capture System Verification

Verification of air flow into the Capture Enclosure is performed monthly via smoke test, velometer or streamer/ribbon.

All access ports and panels are closed during the routine operation of the process.

Justification: Based on historical data and agency agreement, capture efficiency can be assumed to be 95% if the system continues to run under negative pressure demonstrating by using results of monthly smoke tests or equivalent methods.

Indicator 5: Periodic Inspections/Preventive Maintenance

Preventative Maintenance (PM) of the catalytic oxidizers including, at a minimum, a check of the burner assembly, damper valves, and PLC auto- shutdown interlock system is performed annually.

Visible emission observation of the catalytic oxidizer exhaust is performed quarterly. If the visual observation indicates the presence of visible emissions, then a determination of opacity, in accordance with the provisions of EPA Method 9, shall be made and recorded within one week of discovery.

Inspection of control system ductwork (holes, excessive rust, etc.) is performed quarterly.

Verification of the operation of Programmable Logic Controllers (PLC) interlocked with the catalyst intake temperature monitor that will automatically shut down the unit if the temperature drops below the shut-down temperature is performed quarterly.

PES-3 COMPOUNDER CONTROLS (EU 3.1)

Compounders 23 and 24

The following monitoring approach ensures that the control system is functioning properly:

Indicator 1: Temperature Monitoring

Catalytic Oxidizer: The press associated with this control system has a Programmable Logic Controller (PLC) interlocked with the press and compound applicators that will automatically shut down the unit if the oxidizer inlet temperature drops below the shut-down temperature during operation. The shut-down temperature is set at 50^{o}F below the operating set point. The operating set point is set at 610^{o}F.

Verification of Exotherm: Chart recordings of the catalyst temperatures will be evaluated using the following parameters:

- Continuous monitoring and recording of the oxidizer inlet and outlet temperatures (at least one measurement set taken and recorded every 15 minutes).
- The increase in temperature of the exhaust of the catalyst bed during application of end seal compound will be compared to the temperature increase recorded during the most recent successful in-situ performance test of the unit under comparable operating conditions. An Exotherm that is within fifty degrees F (50^{o}F) of the reference Exotherm will be indicative of adequate VOC destruction (catalyst activity).
- An extended trend of reduced temperature rise (exotherm), not caused by differences in the rate of end seal compound application, in excess of thirty degrees F (30^{o}F) will be cause for review (inspection and indicated maintenance) of the unit.
- Recordings of catalyst inlet and outlet temperatures will be evaluated by the Maintenance Department Manager and initialed weekly.

Justification: The oxidizer temperature at the inlet of the catalyst bed along with a measurable increase in temperature across the catalyst bed is indicative of an exothermic oxidation, which is in turn indicative of performance.

Indicator 2: Catalyst Replacement

In lieu of Performance Testing of PES-3 for overall destruction efficiency the catalyst bed will be re-charged with new catalyst beads every four years, no later than 54 months apart. (Catalyst supplier claims that the life of the catalyst beads is six to eight years.)

Justification: The oxidizer will be recharged with fresh catalyst within the accepted performance timeframes.

Most recent replacement information can be found in Attachment B.

Indicator 3: Capture System Verification

Verification of air flow into the Capture Enclosure is performed quarterly via smoke test, velometer or streamer/ ribbon.

Justification: Capture efficiency is determined during performance testing. In the interim, confirmation the system continues to run under negative pressure is proven using smoke tests or equivalent methods. All access ports and panels are closed during the routine operation of the process.

Indicator 4: Periodic Inspections/Preventive Maintenance

Preventative Maintenance (PM) of the catalytic oxidizers including, at a minimum, a check of the heater assembly, damper valves, and auto-shut down interlock is performed annually.

Visible emission observations of the catalytic oxidizer exhaust are performed quarterly. If the visual observation indicates the presence of visible emissions, then a determination of opacity, in accordance with the provisions of EPA Method 9, shall be made and recorded within one week of discovery

Inspection of control system ductwork (holes, excessive rust, etc.) is performed quarterly.

Verification of the operation of Programmable Logic Controller (PLC) interlocked with the enclosure temperature monitor that will automatically shut down the unit if the temperature drops below the shut-down temperature is performed quarterly.

PES-4 COMPOUNDER CONTROLS (EU 4.2)

Compounders 29, 30, 31, and 32 (Formatec)

The following monitoring approach ensures that the control systems are functioning properly:

Indicator 1: Temperature Monitoring

Catalytic Oxidizer: The press associated with this control system has a Programmable Logic Controller (PLC) interlocked with the press and compound applicators that will automatically shut down the unit if the oxidizer inlet temperature drops below the shut-down temperature during operation. The shut-down temperature is set at 50°F below the operating set point. The operating set point temperature is determined by the most recent successful in-situ performance test.

Verification of Exotherm: Chart recordings of the catalyst outlet temperatures will be evaluated using the following parameters:

- Continuous monitoring and recording of the oxidizer inlet and outlet temperatures (at least one measurement set taken and recorded every 15 minutes).
- The increase in temperature of the exhaust of the catalyst bed during application of end seal compound will be compared to the temperature increase recorded during the most recent successful in-situ performance test of the unit under comparable operating conditions. An Exotherm that is within fifty

degrees F (50°F) of the reference Exotherm will be indicative of adequate VOC destruction (catalyst activity)

- An extended trend of reduced temperature rise (exotherm), not caused by differences in the rate of end seal compound application, in excess of thirty degrees F (30°F) will be cause for review (inspection and indicated maintenance) of the unit.
- Recordings of catalyst inlet and outlet temperatures will be evaluated by the Maintenance Department Manager and initialed weekly

Justification: The oxidizer temperature at the inlet of the catalyst bed along with a measurable increase in temperature across the catalyst bed is indicative of an exothermic oxidation, which is in turn indicative of performance.

Indicator 2: Catalyst Replacement

In lieu of Performance Testing of PES-4 for overall destruction efficiency the catalyst bed will be recharged with new catalyst beads every two years, no later than 34 months apart.

Justification: Performance testing with catalyst in operation for more than two years showed greater than 95% removal across the oxidizer, and subsequent catalyst module testing confirmed sufficient destruction (>95% at 600 °F) after an additional two months of operation. The oxidizer will be recharged with fresh catalyst within these proven performance timeframes.

Most recent replacement information can be found in Attachment B.

Indicator 3: Capture System Verification

Verification of air flow into the Capture Enclosure is performed quarterly via smoke test, velometer or streamer/ribbon.

All access ports and panels are closed during the routine operation of the process.

Justification: Capture efficiency is determined during performance testing. In the interim, confirmation the system continues to run under negative pressure is proven using smoke tubes or equivalent methods

Indicator 4: Periodic Inspections/Preventive Maintenance

Preventative Maintenance (PM) of the catalytic oxidizers including, at a minimum, a check of the burner assembly, damper valves, and auto-shut down interlock is performed annually.

Visible emission observation of the thermal catalytic oxidizer exhaust is performed quarterly. If the visual observation indicates the presence of visible emissions, then a determination of opacity, in accordance with the provisions of EPA Method 9, shall be made and recorded within one week of discovery.

Inspection of control system ductwork (holes, excessive rust, etc.) is performed quarterly.

Verification of the operation of Programmable Logic Controllers (PLC) interlocked with the enclosure temperature monitor that will automatically shut down the unit if the temperature drops below the shut-down temperature is performed quarterly.

PES-5 COMPOUNDER CONTROLS, EU 5.1

Compounders 34 and 35

The following monitoring approach ensures that the control system is functioning properly:

Indicator 1: Temperature Monitoring

Catalytic Oxidizer: The press associated with this control system has a Programmable Logic Controller (PLC) interlocked with the press and compound applicators that will automatically shut down the unit if the oxidizer inlet temperature drops below the shut-down temperature during operation. The shut-down temperature is set at 50°F below the operating set point. The operating set point may be set as low as the temperature at which the most recent in-situ performance test demonstrated compliance.

Justification: Shelby County Code Section 3-22 [Reference Rules and Regulations of Tennessee, Rule 1200-3-18-.03(5)(b)(10)] requires records demonstrate the average temperature measured upstream of the catalyst bed is no more than 50°F lower than the gas stream temperature measured upstream of the catalyst bed during the most recent successful compliance demonstration of the destruction efficiency of the oxidizer. If subsequent in-situ performance testing is successful at a higher or lower oxidizer inlet temperature the minimum oxidizer inlet operating temperature may be adjusted accordingly.

Verification of Exotherm: Chart recordings of the catalyst temperatures will be evaluated using the following parameters:

- Continuous monitoring and recording of the oxidizer inlet and outlet temperatures (at least one measurement set taken and recorded every 15 minutes).
- The increase in temperature of the exhaust of the catalyst bed during application of end seal compound application will be compared to the temperature increase recorded during the most recent successful performance test of that unit under comparable operating conditions. An Exotherm that is within fifty degrees F (50°F) of the reference exotherm will be indicative of adequate VOC destruction (catalyst activity).
- An extended trend of reduced temperature rise (exotherm), not caused by differences in the rate of end seal compound application, in excess of thirty degrees F (30°F) will be cause for review (inspection and indicated maintenance) of the unit.
- Recordings of catalyst inlet and outlet temperatures will be evaluated by the Maintenance Department Manager and initialed weekly.

Justification: The oxidizer temperature at the inlet of the catalyst bed along with a measurable increase in temperature across the catalyst bed is indicative of an exothermic oxidation, which is in turn indicative of performance.

Indicator 2: Performance Testing

Testing the system in PES-5 for overall destruction efficiency will be conducted within seven years of the most recent test demonstrating compliance. The test will be performed by the end of the same month as the previous test. Catalyst module testing will not be necessary in the years that the overall destruction efficiency testing is conducted.

Justification: Verification of destruction efficiency is through EPA approved test methods. The catalyst supplier claims the useful life of the catalyst with proper care exceeds eight years.

Most recent test information can be found in Attachment B.

Indicator 3: Catalyst Testing

Catalyst module testing on the unwashed catalyst for removal efficiency will be performed every two years, not to exceed 30 months apart. Destruction efficiencies are compared to most recent performance test results to determine if acceptable removal is achieved. A record of the catalyst test results will be maintained.

In the event catalyst module activity testing indicates insufficient destruction, Sonoco will take one of the following corrective actions:

a) Replace with new, fresh catalyst
   - Adjust the temperature to coincide with the laboratory test temperature which produced the desired removal efficiency until catalyst can be replaced, then will resort back to most recent corresponding performance test set point temperature

Or

b) Conduct a performance test to determine new set point. Temperature will be adjusted in accordance with the catalyst test results until such time as the performance can be completed.

Justification: Catalyst modules are tested through a range of temperatures including within 10°F of the operating inlet temperature set-point. The operating inlet temperature set-point is the inlet temperature maintained during the most recent successful performance test. Destruction efficiencies necessary to achieve overall destruction efficiency are determined by performance test results. "Overall emission reduction efficiency" can be calculated as the product of the capture efficiency and the control device destruction or removal efficiency, as defined in Shelby County Code 3-22 [Reference TN 1200-3-18-01 (52].

Most recent test information can be found in Attachment B.

Indicator 4: Total Enclosure Verification

There are no NDOs associated with this enclosure.

Verification of air flow into the Capture Enclosure is performed via smoke test, velometer or streamer/ ribbon (Reference EPA Method 204). Verification of the Total Enclosure integrity is performed quarterly.

All access ports and panels are closed during the routine operation of the process.

Justification: Per Method 204, a Natural Draft Opening (NDO) is any permanent opening in the enclosure that remains open during operation and is not connected to a duct in which a fan is installed. Since there are no such openings meeting this definition, it is presumed 100 % capture. The system operating under negative pressure is confirmed by the smoke test.

Indicator 5: Periodic Inspections/Preventive Maintenance

Preventative Maintenance (PM) of the catalytic oxidizer system is performed annually.

Visible emission observations of the catalytic oxidizer exhaust are performed quarterly. If the visual observation indicates the presence of visible emissions, then a determination of opacity, in accordance with the provisions of EPA Method 9, shall be made and recorded within one week of discovery.

Inspection of control system ductwork (holes, excessive rust, etc.) is performed quarterly.

Verification of the operation of Programmable Logic Controller (PLC) interlocked with the enclosure temperature monitor that will automatically shut down the unit if the temperature drops below the shut-down temperature is performed quarterly.

REPORTING AND RECORDKEEPING REQUIREMENTS

The Maintenance Department keeps logs of start-ups, shut-downs and temperature aberrations that may be indicative of malfunctions.

In the event that a catalytic oxidizer/end dryer continues to run under malfunction conditions, manufacturer-generated literature can be used to determine the destruction efficiency of the unit at various operating temperatures. A review of the temperature recording provides the amount of time that the unit operated at while under malfunction conditions, as well as the temperature at which the oxidizer was operating during this time. By assuming that the equipment was operating at maximum line speed during the entire malfunction (a worst-case scenario) the maximum amount of emissions associated with a malfunction can be calculated.

Records from the preventive maintenance program depicting any maintenance and/or repairs to the catalytic oxidizers and associated capture equipment shall be logged. Sonoco PI will maintain all records associated with the operation of the catalytic oxidizers for a minimum of five (5) years. These records must be availablefor inspection during normal working hours.

If an oxidizer and associated capture equipment performance failure results in an excursion from permit requirements, Sonoco will inform the Shelby County Health Department (SCHD) within 24 hours, as required by their Title V Major Source Operating Permit Number 0290-01TV.

OPERATION AND MAINTENANCE OF EQUIPMENT

Sonoco PI's Preventive Maintenance schedule includes routine servicing of the oxidizers and associated capture and monitoring equipment to make certain that they continue to perform in accordance with design specifications

Sonoco PI has also incorporated a calibration program into the Preventive Maintenance schedule to calibrate the thermocouples on a semi-annual basis. These calibration frequencies are based on manufacturer's recommendations and standard industrial practices. Additionally, Sonoco PI conducts periodic checks the on the Programmable Logic Controllers (PLCs) and scheduled testing of the automatic shut-offs and audible alarms on the oxidation units. Records of the checks including dates and results will be maintained on site for at least five (5) years from the date of the event.

The facility also maintains a critical spares inventory that includes back-up thermocouples, Programmable Logic Controllers (PLCs) and strip chart recorders. If one of the monitors breaks down and the associated system is shut down, repairs can be accomplished in a timely manner.

ATTACHMENT A

CAM SUMMARY TABLES BY SOURCE

TABLE I: PES-1 COATER

CAM Requirement	Indicator #1	Indicator #2	Indicator #3	Indicator #4
Indicator	**Oxidizer Temperature**	**Overall Destruction Efficiency**	**Enclosure Verification**	**Periodic Inspection, Observation, and Preventative Maintenance**
Measurement Approach	Continuous electronic measurement of oxidizer temperature	Independent Testing	Measurement of air flow into the enclosure	Visual
Indicator Range	Oxidizer temperature $\geq$1300^{o}F	> 45% control efficiency Per 1200-3-18-.82(3)	$\geq$200 fpm	Identification of visible emissions, changes in operation, and structural integrity
Corrective Action	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair
Performance Measure	Temperature (^{o}F)	Overall control efficiency	Velocity of air into the enclosure	Visual observation
Data Collection	Continuous recording, Automated shut down, maintenance log	Performed by independent contractor	Manually monitor and record	Manual records of inspections and observations
Data Representativeness	The recording instrument (Thermocouple) shall be accurate within ± 1% of the temperature being measured.	Testing will conform to industry and EPA standards	The velometer shall be accurate within $\pm$ 5%	Inspection and observation records will be maintained and audited to assure the activity is conducted
Verification of Operational Status	Maintenance records	Independent contractor report	Manual documentation of data	Same as above (See Data Representativeness)
QA/QC Practices	Calibration check of recording instrument (Thermocouple) will be conducted in accordance with manufacturer recommendations; and annual maintenance and inspection of oxidizer (burner assembly and damper valves)	Industry and EPA standards will be followed	Maintain velometer in accordance with manufacturer recommendations Quarterly maintenance and inspection (including dampers, operational condition of the interlock, and general condition of the enclosure)	Same as above (See Data Representativeness)
Monitoring Frequency	Continuous	8 years from last successful test	Monthly	Various
Procedures	Automatic continuous monitoring of thermocouples located in the oxidizer	EPA and industry standards will be followed	Monitoring and recording, reference Method 204; maintenance or repair as required	Visual inspection and observation, maintenance or repair as required
Averaging Procedure	Three hours	Average of 3 test runs	Not applicable	Not applicable
Recordkeeping Frequency	continuous	When tested. Records maintained per Permit requirements	Quarterly	Annually or when malfunction is suspected
Reporting	Malfunction report	Independent testing contractor report	Monitoring report or maintenance record	Inspection and observation reports
Reporting Frequency	As requested by the Department or in the event of excursions, then semi-annually	Within 90 days of successful testing	As requested by the Department or in the event of excursions, then semi-annually	As requested by the Department or in the event of excursions, then semi-annually

TABLE II: PES-2- COMPOUNDERS

CAM Requirement	Indicator #1	Indicator #2	Indicator #3	Indicator #4	Indicator #5
Indicator	**Oxidizer Inlet/Outlet Temperature**	**Overall Destruction Efficiency**	**Catalyst Module Activity**	**Capture System Verification**	**Periodic Inspection, Observation, and Preventative Maintenance**
Measurement Approach	Continuous electronic recording of inlet/outlet temperature	Independent Testing	Catalyst module activity (destruction efficiency) testing under lab conditions	Smoke test or velometer	Visual
Indicator Range	Inlet temperature based on the most recent in-situ stack test and a measurable temperature rise across catalyst bed	≥ 80% control efficiency	Catalyst activity (destruction efficiency) at various temperatures to develop a temp vs activity curve	Air flow into the capture system	Identification of visible emissions, changes in operation, and structural integrity
Corrective Action	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair
Performance Measure	Temperature (°F)	Overall control efficiency	Destruction efficiency	Verification of air flow into the system	Visual observation
Data Collection	Automated recording	Performed by independent contractor	Laboratory per approved test method	Manually monitor and record	Manual records of inspections, repairs and observations
Data Representativeness	The recording instrument (Thermocouple) shall be accurate within ± 1% of the temperature being measured.	Testing will conform to industry and EPA standards	Test catalyst activity at operating range to determine destruction rate at various temperatures	Inspection and observation records will be maintained and audited to assure the activity is conducted	Inspection and observation records will be maintained and audited to assure the activity is conducted
Verification of Operational Status	Electronic Files/consolidated and reviewed monthly (hardcopy)	Independent contractor report	Contract lab report	Manual documentation	Same as above (See Data Representativeness)
QA/QC Practices	Calibration check of recording instrument (Thermocouple) will be conducted in accordance with manufacturer recommendations; and annual preventive maintenance and inspection of oxidizer	Industry and EPA standards will be followed	Performance analysis of catalyst module per approved test method	Quarterly maintenance and inspection (including dampers, operational condition of the interlock, and general condition of the enclosure)	Same as above (See Data Representativeness)
Monitoring Frequency	Continuous	6 years from last successful test	every two (2) years no more than 30 months apart	Quarterly	Annually or when a malfunction is suspected
Procedures	Automatic continuous recording of thermocouples located at the catalyst bed inlet and outlet	EPA and industry standards will be followed	Manufacturer procedures	Quarterly monitoring and recording	Visual inspection and observation
Averaging Procedure	Three (3) hours	Average of 3 test runs	Not applicable	Not applicable	Not applicable
Recordkeeping Frequency	Continuous	When tested. Records maintained per Permit requirements	Every Two Years	Quarterly	Various
Reporting	Malfunction report	Independent testing contractor report	Results of lab testing	Monitoring report	Inspection, repair and observation reports
Reporting Frequency	As requested by the Department or in the event of excursions, then semi-annually	Within 90 days of successful testing	As requested by the Department or in the event of an excursion	As requested by the Department or in the event of excursions, then semi-annually	As requested by the Department or in the event of excursions, then semi-annually

TABLE III: PES-3- COMPOUNDERS

	Indicator #1	Indicator #2	Indicator #3	Indicator #4
Indicator	**Oxidizer Inlet/Outlet Temperature**	**Catalyst Replacement**	**Capture System Verification**	**Periodic Inspection, Observation, and Preventative Maintenance**
Measurement Approach	Continuous electronic recording of inlet/outlet temperature	Recordkeeping	Smoke test or velometer	Visual
Indicator Range	Inlet temperature based on the most recent in-situ stack test and a measurable temperature rise across catalyst bed	4 Years from last replacement (no later than 54 months apart)	Air flow into the capture system	Identification of visible emissions, changes in operation, and structural integrity
Corrective Action	Shutdown associated equipment, inspect, repair	N/A	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair
Performance Measure	Temperature (^{o}F)	Manufacturer certification	Verification of air flow into the system	Visual observation
Data Collection	Automated recording	Maintenance records	Manually monitor and record	Manual records of inspections, repairs and observations
Data Representativeness	The recording instrument (Thermocouple) shall be accurate within ± 1% of the temperature being measured.	Catalyst life projected >5 years	Inspection and observation records will be maintained and audited to assure the activity is conducted	Inspection and observation records will be maintained and audited to assure the activity is conducted
Verification of Operational Status	Electronic Files/consolidated and reviewed monthly (hardcopy)	Manufacturer certification	Manual documentation	Same as above (See Data Representativeness)
QA/QC Practices	Calibration check of recording instrument (Thermocouple) will be conducted in accordance with manufacturer recommendations; and annual maintenance and inspection of oxidizer	Storage of new catalyst at controlled room temperature until use	Quarterly maintenance and inspection (including dampers, operational condition of the interlock, and general condition of the enclosure)	Same as above (See Data Representativeness)
Monitoring Frequency	Continuous	N/A	Quarterly	Various
Procedures	Automatic continuous recording of thermocouples located at the catalyst bed inlet and outlet	Manufacturer procedures	Quarterly monitoring and recording	Visual inspection and observation
Averaging Procedure	Three (3) hours	Not applicable	Not applicable	Not applicable
Recordkeeping Frequency	Continuous	Every 4 years	Quarterly	Various
Reporting	Malfunction report	As completed	Monitoring report	Inspection, repair and observation reports
Reporting Frequency	As requested by the Department or in the event of excursions, then semi-annually	As requested by the Department or in the event of an excursion.	As requested by the Department or in the event of excursions	As requested by the Department or in the event of excursions

TABLE IV: PES-4- COMPOUNDERS

	Indicator #1	Indicator #2	Indicator #3	Indicator #4
Indicator	**Oxidizer Inlet/Outlet Temperature**	**Catalyst Replacement**	**Capture System Verification**	**Periodic Inspection, Observation, and Preventative Maintenance**
Measurement Approach	Continuous electronic recording of inlet/outlet temperature	Recordkeeping	Smoke test or velometer	Visual
Indicator Range	Inlet temperature based on the most recent in-situ stack test and a measurable temperature rise across catalyst bed	28 months from last replacement no more than 34 months	Air flow into the capture system	Identification of visible emissions, changes in operation, and structural integrity
Corrective Action	Shutdown associated equipment, inspect, repair	N/A	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair
Performance Measure	Temperature (^{o}F)	Manufacturer certification	Verification of air flow into the system	Visual observation
Data Collection	Automated recording	Maintenance records	Manually monitor and record	Manual records of inspections, repairs and observations
Data Representativeness	The recording instrument (Thermocouple) shall be accurate within ± 1% of the temperature being measured.	Based on performance test results	Inspection and observation records will be maintained and audited to assure the activity is conducted	Inspection and observation records will be maintained and audited to assure the activity is conducted
Verification of Operational Status	Electronic Files/consolidated and reviewed monthly (hardcopy)	Manufacturer certification	Manual documentation	Same as above (See Data Representativeness)
QA/QC Practices	Calibration check of recording instrument (Thermocouple) will be conducted in accordance with manufacturer recommendations; and annual maintenance and inspection of oxidizer	Storage of new catalyst at controlled room temperature until use	Quarterly maintenance and inspection (including dampers, operational condition of the interlock, and general condition of the enclosure)	Same as above (See Data Representativeness)
Monitoring Frequency	Continuous	N/A	Quarterly	Various
Procedures	Automatic continuous recording of thermocouples located at the catalyst bed inlet and outlet	Manufacturer procedures	Quarterly monitoring and recording	Visual inspection and observation
Averaging Procedure	Three (3) hours	Not applicable	Not applicable	Not applicable
Recordkeeping Frequency	Continuous	Every 2 years	Quarterly	Various
Reporting	Malfunction report	As completed	Monitoring report	Inspection, repair and observation reports
Reporting Frequency	As requested by the Department or in the event of excursions, then semi-annually	As requested by the Department or in the event of an excursion.	As requested by the Department or in the event of excursions	As requested by the Department or in the event of excursions

TABLE V: PES-5 COMPOUNDERS

CAM Requirement	Indicator #1	Indicator #2	Indicator #3	Indicator #4	Indicator #5
Indicator	**Oxidizer Inlet/Outlet Temperature**	**Overall Destruction Efficiency**	**Catalyst Module Activity**	**Capture System and Enclosure Verification**	**Periodic Inspection, Observation, and Preventative Maintenance**
Measurement Approach	Continuous electronic recording of inlet/outlet temperature	Independent Testing	Catalyst module activity (destruction efficiency) testing under lab conditions	Smoke test or velometer	Visual
Indicator Range	Inlet temperature based on the most recent in-situ stack test and a measurable temperature rise across catalyst bed	≥80% control efficiency	Catalyst activity (destruction efficiency) at various temperatures to develop a temp vs activity curve	Air flow into the capture system	Identification of visible emissions, changes in operation, and structural integrity
Corrective Action	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair or replace	Shutdown associated equipment, inspect, repair	Shutdown associated equipment, inspect, repair
Performance Measure	Temperature (^{o}F)	Overall control efficiency	Destruction efficiency	Verification of air flow into the system	Visual observation
Data Collection	Automated recording	Performed by independent contractor	Laboratory per approved test method	Manually monitor and record	Manual records of inspections, repairs and observations
Data Representativeness	The recording instrument (Thermocouple) shall be accurate within ± 1% of the temperature being measured.	Testing will conform to industry and EPA standards	Test catalyst activity at operating range to determine destruction rate at various temperatures	Inspection and observation records will be maintained and audited to assure the activity is conducted	Inspection and observation records will be maintained and audited to assure the activity is conducted
Verification of Operational Status	Electronic Files/consolidated and reviewed monthly (hardcopy)	Independent contractor report	Contract lab report	Manual documentation	Same as above (See Data Representativeness)
QA/QC Practices	Calibration check of recording instrument (Thermocouple) will be conducted in accordance with manufacturer recommendations; and annual preventive maintenance and inspection of oxidizer	Industry and EPA standards will be followed	Performance analysis of catalyst module per approved test method	Quarterly maintenance and inspection (including dampers, operational condition of the interlock, and general condition of the enclosure)	Same as above (See Data Representativeness)
Monitoring Frequency	Continuous	7 years from last successful test	every two (2) years no more than 30 months	Quarterly	Annually or when a malfunction is suspected
Procedures	Automatic continuous recording of thermocouples located at the catalyst bed inlet and outlet	EPA and industry standards will be followed	Manufacturer procedures	Monitoring and recording, reference Method 204; maintenance or repair as required	Visual inspection and observation
Averaging Procedure	Three (3) hours	Average of 3 test runs	Not applicable	Not applicable	Not applicable
Recordkeeping Frequency	Continuous	When tested. Records maintained per Permit requirements	Every Two Years	Quarterly	Various
Reporting	Malfunction report	Independent testing contractor report	Results of lab testing	Monitoring report	Inspection, repair and observation reports
Reporting Frequency	As requested by the Department or in the event of excursions, then semi-annually	Within 90 days of successful testing	As requested by the Department or in the event of an excursion	As requested by the Department or in the event of excursions, then semi-annually	As requested by the Department or in the event of excursions, then semi-annually

ATTACHMENT B

TESTING LOG

SONOCO

TESTING SCHEDULES AND TRACKING

PES-1									
Due date		4/30/2022							8 years from previous test
Test date	4/30/2014								
% Removal	91.8%								
% Capture	100.0%								
Overall Destruction, %	**91.8%**								
Limit, % ODE	*45.0%*	*45.0%*	*0.45*	*0.45*	*0.45*	*0.45*	*0.45*	*0.45*	
Set Point Temp, F	1300								

PES-2										
Next Test Due	8/30/23	Test Date	8/30/2017							
6 years from previous		Compounder Tested								
		% Removal	87.4%							
		% Capture	98.0%	assume 95% if enclosure tested monthly						
		% Overall Destruction	**85.7%**	must meet 80%						
		Temp Set Point, F	650							
		Exotherm Temp								
Catalyst replace/test date	P9 - 12/4/2017	P8- 12/9/2019								
Temp to achieve 80% ODE		500								
next test due, no later than 24 + 6 months		6/9/2022								

PES-3											
		Test Date				Catalyst replacement every 48 months, not to exceed 54 months					
		% Removal		95.0%		based on construction permit					
		% Capture		85.0%		based on construction permit					
		% Overall Destruction		**80.8%**		must meet 80%					
		Temp Set Point, F		610							
		Exotherm Temp									
Catalyst replace/test date	10/15/2016	12/16/2020									
Temp to achieve 80% ODE											
next replacement due, no later than 48 + 6 months		6/1/2025									

PES-4											
		Test Date		10/23/2019		Catalyst replacement every 28 months, not to exceed 34 months					
		% Removal		95.8%							
		% Capture		92.4%							
		% Overall Destruction		**88.5%**		must meet 80%					
		Temp Set Point, F		650							
		Exotherm Temp									
Catalyst replace/test date	7/31/2017	12/16/2019									
Temp to achieve 80% ODE											
next replacement due, no later than 28 + 6 months		10/1/2022									

PES-5										
Next Test Due	1/30/2023	Test Date		1/20/2016						
7 yearsr from previous		% Removal		95.8%						
		% Capture		100.0%						
		% Overall Destruction		**95.8%**		must meet 80%				
		Temp Set Point, F		600						
		Exotherm Temp								
Catalyst replace/test date	P9 - 12/4/2017	P8- 12/9/2019								
Temp to achieve 80% ODE		500								
next test due, no later than 24 + 6 months		6/9/2022								