

Statement of Basis
Essity Professional Hygiene North America, LLC.
701-0055

Essity Professional Hygiene North America, LLC has applied for a renewal of Major Source Operating Permit (MSOP) 701-0055. This proposed title V Major Source Operating Permit is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above-named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans, and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

The facility originally began operations in 2004. The initial Title V MSOP was issued on March 13, 2008, and this is the third renewal. The current MSOP was issued on June 30, 2020, with an effective date of July 1, 2020, and will expire on June 30, 2025. The renewal application was received on December 20, 2024.

The facility is located in Colbert County, which is currently in compliance with all National Ambient Air Quality Standards (NAAQS).

There are no current or ongoing enforcement actions against Essity necessitating additional requirements to achieve compliance with the proposed permit conditions. The enforcement and compliance history for the facility can be found at <https://echo.epa.gov/> (Search using Facility ID AL0000000103300055).

Background

Essity Professional Hygiene is a tissue mill located in Cherokee, Colbert County, Alabama. Essity produces tissue, towel, and napkin grades of paper entirely from recycled paper products. Construction on the Cherokee site was completed on March 14, 2004. Essity has two operating lines. The facility is a major source with respect to Title V. The mill has two package boilers subject to 40 CFR Part 60 Subpart Dc.

Recycled paper converting mills fall outside the 28-source category list; therefore, Essity would be considered a major source for the Prevention of Significant Deterioration (PSD) if their potential to emit became larger than 250 tons per year (TPY) for any criteria pollutant. During initial permitting on June 25, 2002, Essity accepted a volatile organic compound (VOC) emission limit of 235 TPY (excluding combustion sources) so that it will be a synthetic minor source with respect to PSD.

The main pollutants emitted from this facility are nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO₂), VOCs, hazardous air pollutants (HAPs), and particulate matter (PM). The emissions associated with Essity's operations can be found in Table 1 below and are based on permitted allowable emission rates and/or operating 8,760 hours a year.

Table 1: Essity Potential Emissions		
Regulated Pollutant	Potential Emissions (tons/yr)	Major Source? (Yes/No)

PM	125	Yes
PM-10	108	Yes
PM-2.5	46	No
SO ₂	1.08	No
NO _x	103	Yes
CO	131	Yes
VOC	228.5	Yes
Total HAPs	16.7	No
Maximum HAP	5.80	No
CO _{2e}	191,354	Yes

Boilers

Essity operates two package boilers on site that produce steam for the paper machines and fire natural gas, with propane as a backup.

No. 1 Package Boiler

This boiler produces steam for the No. 12 paper machine. The primary fuel for this boiler is natural gas with propane as a backup. The stack exhaust from the Nos. 1 and 2 Package Boilers can be routed to an Economizer for energy recovery. The Economizer does not reduce or produce emissions itself. Essity estimated the potential emissions for the No. 1 Package Boiler using AP-42 emission factors, due to limited test data, and assuming 8,760 hours per year of operation at the maximum rated capacity. The AP-42 factor for propane firing was used as it represents higher emissions than natural gas. This unit is subject to 40 CFR Part 60 Subpart Dc and is not subject to 40 CFR Part 63 Subpart JJJJJ as defined in 40 CFR 63.11195(e). The boiler was originally permitted on June 25, 2002, with anti-PSD limits for NO_x and SO₂. The boiler size was later revised and the capability to fire fuel oil was removed. Subsequently, the amount of propane allowed to be fired by the facility was reduced from 10,000,000 gallons to 5,000,000 gallons per 12-months and the anti-PSD limits for NO_x and SO₂ were revised during the second Title V renewal issued on July 28, 2015.

Control Equipment

There are no add on control devices on this unit. However, the boiler is equipped with low-NO_x burners to reduce the NO_x emission from this source.

Emission Limits and Proposed Periodic Monitoring

The No. 1 Package Boiler is subject to:

- The applicable requirements of ADEM Admin. Code 335-3-4-.03 for particulate matter.
- The applicable requirements of ADEM Admin. Code 335-3-5-.01(1)(b) for sulfur dioxide.
- The applicable requirements of ADEM Admin. Code 335-3-10-.02(2)(c).
- The applicable requirements of ADEM Admin. Code 335-3-4-.01 for opacity.
- PSD synthetic minor limits for sulfur dioxide and nitrogen oxides.

The No. 1 Package Boiler has the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
-----------	-------	------------	--------	---------------

PM	18.12 lb/hr and 0.1825 lb/MMBtu	SIP	Rule 335-3-4- .03(1)	N/A
NO _x	Natural Gas: 9.95 lb/hr Propane: 20.85 lb/hr	Anti- PSD	Title V Permit	July 28, 2015
SO ₂	13.74 lb/hr and 4.0 lb/MMBtu	Anti- PSD	Title V Permit	July 28, 2015
SO ₂	220 tpy Facility wide	Anti- PSD	Title V Permit	July 28, 2015
Opacity	20 percent with one six-minute period up to 40 percent in any one-hour period	SIP	Rule 335-3-4- .01(1)(a-b)	N/A

The No. 1 Package Boiler has the following emission monitoring requirements:

- The Mill will keep records of the amount of propane fired on a 12-month rolling average basis.
- The Mill will keep monthly fuel usage records.

Changes during the third renewal:

- Corrected the emission points listed to 7 (No. 1 Package Boiler) and 7b (Economizer).
- Updated the reference to Rule 335-3-14-.04 instead of Rule 335-3-14 for synthetic minor limits under the applicability section.
- Updated applicability proviso to state the unit is subject to synthetic minor limits for sulfur dioxide and nitrogen oxides instead of sulfur dioxide and volatile organic compounds. The facility is still subject to a 235 tpy limit for volatile organic compounds from non-combustion sources.
- Removed references to the Department granting alternative test methods.

No. 2 Package Boiler

This boiler produces steam for the No. 14 paper machine. The primary fuel for this boiler is natural gas with propane as a backup. The stack exhaust from the Nos. 1 and 2 Package Boilers can be routed to an Economizer for energy recovery. The Economizer does not reduce or produce emissions itself. Essity estimated the potential emissions for the No. 2 Package Boiler using AP-42 emission factors, due to limited test data, and assuming 8,760 hours per year of operation at the maximum rated capacity. The AP-42 factor for propane firing was used as it represents higher emissions than natural gas. The boiler was originally permitted on June 25, 2002, with anti-PSD limits for NO_x and SO₂. The initial permits for the second line were re-issued on June 10, 2008. The boiler size was revised and the capability to fire fuel oil was removed. Subsequently, the amount of propane allowed to be fired by the facility was reduced from 10,000,000 gallons to 5,000,000 gallons per 12-months and the anti-PSD limits for NO_x and SO₂ were revised during the second Title V renewal issued on July 28, 2015.

Control Equipment

There are no add-on control devices on this unit. However, the boiler is equipped with low-NO_x burners to reduce the NO_x emission from this source.

Emission Limits and Proposed Periodic Monitoring

The No. 2 Package Boiler is subject to:

- The applicable requirements of ADEM Admin. Code 335-3-4-.03 for particulate matter.
- The applicable requirements of ADEM Admin. Code 335-3-5-.01(1)(b) for sulfur dioxide.
- The applicable requirements of ADEM Admin. Code 335-3-10-.02(2)(c).
- The applicable requirements of ADEM Admin. Code 335-3-4-.01 for opacity.
- PSD synthetic minor limits for sulfur dioxide and nitrogen oxides.

The No. 2 Package Boiler has the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
PM	17.09 lb/hr and 0.1911 lb/MMBtu	SIP	Rule 335-3-4-.04(1)	N/A
NO _x	Natural Gas: 8.96 lb/hr Propane: 18.77 lb/hr	Anti-PSD	Title V Permit	July 28, 2015
SO ₂	12.37 lb/hr and 4.0 lb/MMBtu	Anti-PSD	Title V Permit	July 28, 2015
SO ₂	220 tpy Facility wide	Anti-PSD	Title V Permit	July 28, 2015
Opacity	20 percent with one six-minute period up to 40 percent in any one-hour period	SIP	Rule 335-3-4-.01(1)(a-b)	N/A

The No. 2 Package Boiler has the following emission monitoring requirements:

- The Mill will keep records of the amount of propane fired on a 12-month rolling average basis.
- The Mill will keep monthly fuel usage records.

Changes during the third renewal:

- Corrected the emission points listed to 7a (No. 2 Package Boiler) and 7b (Economizer).
- Updated the reference to Rule 335-3-14-.04 instead of Rule 335-3-14 for synthetic minor limits under the applicability section.
- Updated applicability proviso to state the unit is subject to synthetic minor limits for sulfur dioxide and nitrogen oxides instead of sulfur dioxide and volatile organic compounds. The facility is still subject to a 235 tpy limit for volatile organic compounds from non-combustion sources.
- Removed references to the Department granting alternative test methods.

De-Ink Lines, Paper Machines, and Converting Operations

De-Ink Line 12, Paper Machine 12, and Converting Operations

Deinking line No. 12 (DL01) has a maximum capacity of 450 MDTPD (37,500 dry lb/hr of pulp) and emits VOCs and HAPs. The No. 12 Paper Machine (PM 12) is a wet crepe machine which produces towel and napkin grades of paper. PM 12 has a maximum capacity of 450 MDTPD (37,500 dry lb/hr of pulp) and emits VOCs, HAPs, and particulate emissions. The converting operations produce VOCs, HAPs, and particulate emissions. The VOC/HAP emissions estimates were based on chemical composition, usage, and production capacity. PM emissions are based on

emissions test factors from similar operations at an Essity facility with the unit operating 8,760 hours per year.

Control Equipment

There are no add on control devices on these units.

Emission Limits and Proposed Periodic Monitoring

The De-Ink Line 12, Paper Machine 12, and Converting Operations are subject to:

- PSD synthetic minor limit for VOC

The De-Ink Line 12, Paper Machine 12, and Converting Operations have the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
PM	$E = 3.59P^{0.62}$	SIP	Rule 335-3-4-.04 (1)	N/A
VOC	235 tons/yr	Anti-PSD	Permit 701-0055-X001	June 25, 2002
Opacity	20 percent with one six-minute period up to 40 percent in any one-hour period	SIP	Rule 335-3-4-.01(1)(a-b)	N/A

The De-Ink Line 12, Paper Machine 12, and Converting Operations have the following emission monitoring requirements:

- Accurate and understandable records for the previous two years of VOC usage. This report will also be submitted to the Department.

Changes during the third renewal:

- Added emission points 63 and 64 as these units were installed following a non-applicability letter issued on October 4, 2023.
- Updated the reference to Rule 335-3-14-.04 for synthetic minor limits.
- Removed references to the Department granting alternative test methods.

No. 1 Air Cap Dryer

Air Cap Dryer, DR01, has two 28.75 MMBtu/hr burners, and has the capability to fire natural gas or propane. Essity estimated the potential emissions for the No. 1 Air Cap Dryer using AP-42 emission factors, due to limited test data, and assuming 8,760 hours per year of operation at the maximum rated capacity. The AP-42 factor for propane firing was used as it represents higher emissions than natural gas. The dryer was originally permitted on June 25, 2002, with anti-PSD limits for NO_x and SO₂. The dryer size was later revised and the capability to fire fuel oil was removed. Subsequently, the amount of propane allowed to be fired by the facility was reduced from 10,000,000 gallons to 5,000,000 gallons per 12-months and the anti-PSD limits for NO_x and SO₂ were revised during the second Title V renewal issued on July 28, 2015.

Control Equipment

There are no add on control devices on these units. However, the dryers are equipped with low-NO_x burners to reduce the NO_x emission from these sources.

Emission Limits and Proposed Periodic Monitoring

The No. 1 Air Cap Dryer is subject to:

- The applicable requirements of ADEM Admin. Code 335-3-4-.03 for particulate matter.
- The applicable requirements of ADEM Admin. Code 335-3-5-.01(1)(b) for sulfur dioxide.
- The applicable requirements of ADEM Admin. Code 335-3-4-.01 for opacity.
- PSD synthetic minor limits for sulfur dioxide and nitrogen oxides

The No. 1 Air Cap Dryer has the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
PM	13.34 lb/hr and 0.232 lb/MMBtu	SIP	Rule 335-3-4-.04(1)	N/A
NO _x	Natural Gas: 11.52 lb/hr Propane: 21.8 lb/hr	Anti-PSD	Title V Permit	July 28, 2015
SO ₂	7.95 lb/hr and 4.0 lb/MMBtu	Anti-PSD	Title V Permit	July 28, 2015
SO ₂	220 tpy Facility wide	Anti-PSD	Title V Permit	July 28, 2015
Opacity	20 percent with one six-minute period up to 40 percent in any one-hour period	SIP	Rule 335-3-4-.01(1)(a-b)	N/A

The No. 1 Air Cap Dryer has the following monitoring emission requirements:

- The Mill must keep records of the amount of propane per 12 month rolling average period.

Changes during the third renewal:

- Updated the description on the informational summary page to accurately reflect the capacity of the dryer.
- Updated the reference to Rule 335-3-14-.04 instead of Rule 335-3-14 for synthetic minor limits under the applicability section.
- Updated applicability proviso to state the unit is subject to synthetic minor limits for sulfur dioxide and nitrogen oxides instead of sulfur dioxide and volatile organic compounds. The facility is still subject to a 235 tpy limit for volatile organic compounds from non-combustion sources.
- Removed references to the Department granting alternative test methods.

De-Ink Line 14 and Paper Machine 14

Deinking line No. 14 (DL02) has a maximum capacity of 350 MDTPD (29,167 dry lb/hr of pulp) emits VOCs and HAPs. The No. 14 Paper Machine (PM 14) is a dry crepe machine which produces towel and napkin grades of paper. PM 14 has a maximum capacity of 320 MDTPD (26,667 dry lb/hr of pulp) and emits VOCs, HAPs, and particulate emissions. The VOC/HAP emissions estimates were based on chemical composition, usage, and production capacity. PM emissions are based on emissions test factors from similar operations at an Essity facility with the unit operating 8,760 hours per year.

Control Equipment

There are no add on control devices on these units.

Emission Limits and Proposed Periodic Monitoring

The De-Ink Line 14 and Paper Machine 14 are subject to:

- PSD synthetic minor limit for VOC.

The De-Ink Line 14 and Paper Machine 14 have the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
PM	$E = 3.59P^{0.62}$	SIP	Rule 335-3-4-.04 (1)	N/A
VOC	235 tons/yr	Anti-PSD	Permit 701-0055-X001	June 25, 2002
Opacity	20 percent with one six-minute period up to 40 percent in any one-hour period	SIP	Rule 335-3-4-.01(1)(a-b)	N/A

The De-Ink Line 14 and Paper Machine 14 have the following emission monitoring requirements:

- Accurate and understandable records for the previous two years of VOC usage. This report will also be submitted to the Department.

Changes during the third renewal:

- Updated the reference to Rule 335-3-14-.04 for synthetic minor limits.
- Removed references to the Department granting alternative test methods.

No. 2 Air Cap Dryer

Air Cap Dryer, DR01, has two 28.75 MMBtu/hr burners, and has the capability to fire natural gas or propane. Essity estimated the potential emissions for the No. 1 Air Cap Dryer using AP-42 emission factors, due to limited test data, and assuming 8,760 hours per year of operation at the maximum rated capacity. The AP-42 factor for propane firing was used as it represents higher emissions than natural gas. The dryer was originally permitted on June 25, 2002, with anti-PSD limits for NO_x and SO₂. The initial permits for the second line were re-issued on June 10, 2008. The dryer size was later revised and the capability to fire fuel oil was removed. Subsequently, the amount of propane allowed to be fired by the facility was reduced from 10,000,000 gallons to 5,000,000 gallons per 12-months and the anti-PSD limits for NO_x and SO₂ were revised during the second Title V renewal issued on July 28, 2015.

Control Equipment

There are no add on control devices on these units. However, the dryers are equipped with low-NO_x burners to reduce the NO_x emission from these sources.

Emission Limits and Proposed Periodic Monitoring

The No. 2 Air Cap Dryer is subject to:

- The applicable requirements of ADEM Admin. Code 335-3-4-.03 for particulate matter.
- The applicable requirements of ADEM Admin. Code 335-3-5-.01(1)(b) for sulfur dioxide.
- The applicable requirements of ADEM Admin. Code 335-3-4-.01 for opacity.

- PSD synthetic minor limits for sulfur dioxide and nitrogen oxides.

The No. 2 Air Cap Dryer has the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
PM	13.34 lb/hr and 0.232 lb/MMBtu	SIP	Rule 335-3-4-.04(1)	N/A
NO _x	Natural Gas: 11.52 lb/hr Propane: 21.8 lb/hr	Anti-PSD	Title V Permit	July 28, 2015
SO ₂	7.95 lb/hr and 4.0 lb/MMBtu	Anti-PSD	Title V Permit	July 28, 2015
SO ₂	220 tpy Facility wide	Anti-PSD	Title V Permit	July 28, 2015
Opacity	20 percent with one six-minute period up to 40 percent in any one-hour period	SIP	Rule 335-3-4-.01(1)(a-b)	N/A

The No. 2 Air Cap Dryer has the following monitoring emission requirements:

- The Mill must keep records of the amount of propane per 12 month rolling average period.

Changes during the third renewal:

- Updated the reference to Rule 335-3-14-.04 instead of Rule 335-3-14 for synthetic minor limits under the applicability section.
- Updated applicability proviso to state the unit is subject to synthetic minor limits for sulfur dioxide and nitrogen oxides instead of sulfur dioxide and volatile organic compounds. The facility is still subject to a 235 tpy limit for volatile organic compounds from non-combustion sources.
- Removed references to the Department granting alternative test methods.

RICE Unit

Emergency Fire Pump

The Emergency Fire Pump Generator is an existing (manufactured as a certified NFPA fire pump engine before June 12, 2006) 460 brake horsepower (hp) compression ignition (CI) 4-stroke Reciprocating Internal Combustion Engine (RICE) and is used for emergency purposes only.

Control Device

Emission Limits and Proposed Periodic Monitoring

The Emergency Fire Pump is subject to:

- The applicable requirements of ADEM Admin. Code 335-3-4-.01 for opacity.
- The applicable requirements of National Emission Standards for Hazardous Pollutants General Provisions as provided for in 40 CFR Part 63 Subpart ZZZZ as referenced in ADEM Admin. Code 335-3-11-.06(103).

The Emergency Fire Pump has the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
Opacity	20 percent with one six-minute period up to 40 percent in any one-hour period	SIP	Rule 335-3-4-.01(1)(a-b)	N/A
HAPs	Maintenance checks and readiness testing is limited to 100 hours per year and 50 hours per year, counted towards the 100 hours per year. No time limit on usage in emergency situations.	MACT	40 CFR Part 63 Subpart ZZZZ	N/A
HAPs	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	MACT	40 CFR Part 63 Subpart ZZZZ	N/A

The Emergency Fire Pump has the following monitoring emission requirements:

- The Fire Pump must have a non-resettable hour meter and monitor all units according to requirement in §63.6625 (f) and §63.6635.
- The facility shall monitor and collect data according to the requirements of §63.6635.

Storage Tanks

This facility has six storage tanks at the site equal to or greater than 10,567 gallons (40m³), but less than 19,813 gallons (75 m³). Only two of the six tanks in this classification contain VOCs. There are no VOC storage tanks over 1,000 gallons in capacity containing liquids with vapor pressure greater than 1.5 psia; therefore, avoiding ADEM loading and storage of VOC requirements.

CAM

There are no units at the Mill where pre-control emissions are greater than 100 tons per year. Furthermore, the low NOx burners on the package boilers are not considered active control devices. Therefore, CAM provisions would not apply.

Fugitive Dust

A fugitive dust plan was submitted on July 10, 2025, and will be incorporated into the Title V MSOP as Appendix A during the third renewal.

Recommendation

The third renewal Major Source Operating Permit (701-0055) shall be issued with the requirements discussed above pending resolution of any comments received during a 30-day public comment period and a 45-day EPA review.