Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Conditional Major, Operating
PERMIT ID: F-24-035
Somerset Hardwood Flooring
70 West Racetrack Road, Somerset, KY 42503

August 21, 2025
Michael Baidy, Reviewer

Source ID: 21-199-00079
Agency Interest #: 3806
Activity ID: APE20190002 and APE20240001

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SECTION 1 - SOURCE DESCRIPTION

SIC Code and description: 2426, Hardwood Dimension and Flooring Mills (hardwood flooring).

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

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

28 Source Category ☐ Yes ☒ No If Yes, Category:

County: Pulaski
Nonattainment Area ☒ N/A ☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ Ozone ☐ Lead
If yes, list Classification: N/A

PTE* greater than 100 tpy for any criteria air pollutant ☒ Yes ☐ No
If yes, for what pollutant(s)?
☒ PT ☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 250 tpy for any criteria air pollutant ☐ Yes ☒ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☐ Yes ☒ No
If yes, list which pollutant(s): N/A

PTE* greater than 25 tpy for combined HAP ☐ Yes ☒ No

*PTE does not include self-imposed emission limitations.

Description of Facility:

Somerset Hardwood Flooring (formerly known as Eagle Hardwood Inc.) produces finished hardwood flooring with a series of woodworking equipment including planers, saws, sidematchers, endmatchers, grinders, sanders and finishers. Somerset's operations also include 2 wood silos and associated wood waste collectors (wood hogs), 2 natural gas boilers, 2 wood fired boilers, 3 roll coaters for applying stains, and one gluing station.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-24-035 Activity: APE20190002 and APE20240001

Application Received: 8/9/2019; 5/10/2024 Application Complete: 12/26/2024

Permit Action: ☐ Initial ☒ Renewal ☐ Significant Rev. ☒ Minor Rev. ☐ Administrative

Construction/Modification Requested? ☒Yes ☐No

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

Description of Action:
Somerset Hardwood Flooring requested a permit renewal in 2019 (APE20190002) and a subsequent revision request in 2024 (APE20240001). Permit F-24-035 incorporates both the renewal request and the revision changes. Additionally, two off permit changes were submitted between the previous renewal in 2014 and the current permitting actions. All changes are listed below.

Off-permit change APE20140005:

- EU 01A-2 replaced "EP3-9; Rough Knot Saws" with "EP3-9; Automatic Rough Knot Saws".
- EU 01B replaced "EP21-25; Rough Knot Saws" with "EP3-9; Automatic Rough Knot Saws"
    - Both saws listed above are equal capacity "like for like" replacements for previously permitted saws.

Off-permit change APE20160002:

- EU 08 replaced control device "multi-cyclone fly-ash collector" installed in 1975 with a new "Hurst multi-cyclone fly-ash collector" in 2016.

Renewal APE20190001:

- Updated EU 01A-2 to replace "EP3-9; Automatic Rough Knot Saws" with new wood saws "EP3-9; 2 System TM Saws"
- Updated EU 01B to replace "EP21-25; Automatic Rough Knot Saws" with new wood saws "EP21-25; 2 System TM Saws"
    - Both saws listed above are equal capacity "like for like" replacements for previously permitted saws.

Minor Revision APE20240001:

- Added EU 12 Prewash Line
- Added EU 13 Engineered line
- Changed stains to low VOC and water based stains for EU 10 and EU 12

The Division conducted a site visit on September 5th, 2024 and identified the following changes to add to the permit:

- Added EU 14 Wood Drying Kilns as the Division obtained more information regarding the kilns. Currently the PTE for kilns remains low enough to be considered an insignificant activity.
- Obtained more accurate wood throughput data which was used for calculating emissions.

F-24-035 Emission Summary				
Pollutant	2024 Actual (tpy)	Previous PTE F-14-049 (tpy)	Change (tpy)	Revised PTE F-24-035 (tpy)
CO	28.80	68.76	0.43	69.19
NO_X	13.41	25.71	0.42	26.13
PT	42.25	85.78	-69.95	15.83*
PM_{10}	21.20	54.99	-40.32	14.67*
$PM_{2.5}$	14.92	35.67	-22.8	12.87*
SO_2	1.95	2.58	0.01	2.59
VOC	7.19	75.5	-14.91	60.59
Lead	4.80E-07	4.95E-03	0	4.95E-03
Greenhouse Gases (GHGs)				
Carbon Dioxide	15,320.08	23,463.96	618.36	24,082.32
Methane	1.64	2.22	0.01	2.23
Nitrous Oxide	7.60E-01	1.39	0.02	1.41
CO_2 Equivalent (CO_2e)	15,587.63	23,936.77	622.03	24,558.80
Hazardous Air Pollutants (HAPs)				
Acrolein	0	4.12E-01	0	4.12E-01
Benzene	3.28E-01	4.32E-01	0	4.32E-01
Formaldehyde	3.13E-01	4.57E-01	0	4.57E-01
Hydrochloric Acid	0	1.95	0	1.95
Manganese and Manganese Compounds	0	1.65E-01	0	1.65E-01
Styrene	0	1.95E-01	0	1.95E-01
Toluene	4.10E-02	2.70E-01	-0.111	1.59E-01
Combined HAPs:	8.04E-01	4.6	-0.5	4.1

*The PM emission factors for EU 01A-1, 01A-2, 01A-3, 01B, 01C, and 07 were updated in F-24-035. The previous emission factors were undocumented and were replaced with new emission factors that are cited. In addition, the previous PTE calculation did not include the control device and control efficiency for PM from EU 08 and 09. The current PTE includes both of these changes.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit #01A-1 Planers and Rip Saws				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	$P \leq 0.5$ ton/hr $E = 2.34$ lb/hr $0.5 < P \leq 30$ $E = 3.59 \times P^{0.62}$	401 KAR 59:010, Section 3(2)	0.875 lb/1000 board ft (EPA Region 10 Sawmill Memo)	Proper operation and maintenance of control device
	20% opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly visual observation and recordkeeping.

Construction Date: 2008

Process Description:
EU 01A is a common stack from the control device that controls emissions from the following emission points:
EP07 Newman Double Planer and Scanning
EP71 Optimizing Rip Saw
The equipment capacity is 10,000 board feet per hour (25 ton/hr)
Control Device: Fabric Filter Dust Collector (DC1), Constructed 1995
Control Efficiency: 99.9% Particulate Matter

Applicable Regulation:
401 KAR 59:010, *New process operations* is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

Comments:
The emissions from the planers and saws are controlled by dust collector DC1 (identified internally to Somerset as DC1A). The fabric filter dust collector was constructed in 1995 and has a control efficiency of 99.9% for particulate matter.

Board feet per hour was converted to tons per hour using the following equation. Assume a conservative 5 lb / bd-ft estimate for the weight of Red and White Oak processed.
10,000 bdft/hr * 5 lb/bdft *1 ton / 2000 lb = 25 ton/hr

Emission factor basis can be found at the EPA page for **"Technical Memoranda for Sawmills, Region 10"** https://www.epa.gov/caa-permitting/technical-memoranda-sawmills-region-10

Emission Unit #01A-2 Mill Line B				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	$P \leq 0.5$ ton/hr $E = 2.34$ lb/hr $0.5 < P \leq 30$ $E = 3.59 \times P^{0.62}$	401 KAR 59:010, Section 3(2)	0.875 lb/1000 board ft (EPA Region 10 Sawmill Memo)	Proper operation and maintenance of control device
	20% opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly visual observation and recordkeeping.

Construction Date: Listed by emission point:
EP1 – 1999
EP3-9 – 9/1/2015
EP10 – 2000
EP11-16A – 2009
EP18, EP19 - 2009

Process Description:
EU 01A is a common stack from the control device that controls emissions from a group of emission points. Mill Line B is comprised of the following emission points:

Emission Point:	Name:	Control Device:	Control Efficiency:
EP1	Hasko Rip Saw	Dust Collector DC1	99.9%
EP3-9	2 System TM Saws	Dust Collector DC1	99.9%
EP10	Hasko Sidematcher	Dust Collector DC1	99.9%
EP11-16A	Finished Knot Saws	Dust Collector DC1	99.9%
EP18, EP19	Hasko Endmatcher	Dust Collector DC1	99.9%

The equipment capacity is 5,000 board feet per hour (12.5 ton/hr)
Control Device: Fabric Filter Dust Collector (DC1), Constructed 1995
Control Efficiency: 99.9% Particulate Matter

Applicable Regulation:
401 KAR 59:010, *New process operations* is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

Comments:
The emissions from Mill Line B are controlled by dust collector DC1 (identified internally to Somerset as DC1B). The fabric filter dust collector was constructed in 1995 and has a control efficiency of 99.9% for particulate matter.

Emission Unit #01A-2 Mill Line B
Update from APE20190002: For EP3-9, the automatic saws were replaced with 2 new automatic saws (2 System TM Saws). Somerset explained that the new saws have the same throughput and emissions data as the previous saws. Installed 9/2015. Board feet per hour was converted to tons per hour using the following equation. Assume a conservative 5 lb / bd-ft estimate for the weight of Red and White Oak processed. 5,000 bdft/hr * 5 lb/bdft *1 ton / 2000 lb = 12.5 ton/hr Emission factor basis can be found at the EPA page for **"Technical Memoranda for Sawmills, Region 10"** https://www.epa.gov/caa-permitting/technical-memoranda-sawmills-region-10

Emission Unit #01A-3 Mill Line Support Equipment				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	$P \leq 0.5$ ton/hr E = 2.34 lb/hr $0.5 < P \leq 30$ $E = 3.59 \times P^{0.62}$	401 KAR 59:010, Section 3(2)	0.875 lb/1000 board ft (EPA Region 10 Sawmill Memo)	Proper operation and maintenance of control device.
	20% opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly visual observation and recordkeeping.

Construction Date: Listed by emission point:
EP72 – 2008
EP02 – 1995
Miscellaneous Maintenance (Oliver Planer) – 1995
Miscellaneous Maintenance (Johnson Rip Saw) – 1995

Process Description:
EU 01A is a common stack from the control device that controls emissions from a group of emission points. Mill Line Support Equipment is comprised of the following emission points:

Emission Point:	Name:	Control Device:	Control Efficiency:
EP72	Vecoplan Rotary Grinder	Dust Collector DC1	99.9%
EP02	Scrap Saw	Dust Collector DC1	99.9%
Misc. Maintenance	Oliver Planer	Dust Collector DC1	99.9%

Emission Unit #01A-3 Mill Line Support Equipment			
Misc. Maintenance	Johnson Rip Saw	Dust Collector DC1	99.9%

The equipment capacity is 5,000 board feet per hour (12.5 ton/hr)
Control Device: Fabric Filter Dust Collector (DC1), Constructed 1995
Control Efficiency: 99.9% Particulate Matter

Applicable Regulation:
401 KAR 59:010, *New process operations* is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

Comments:
The emissions from Mill Line Support Equipment are controlled by dust collector DC1 (identified internally to Somerset as DC1C). The fabric filter dust collector was constructed in 1995 and has a control efficiency of 99.9% for particulate matter.

Board feet per hour was converted to tons per hour using the following equation. Assume a conservative 5 lb / bd-ft estimate for the weight of Red and White Oak processed.
5,000 bdft/hr * 5 lb/bdft *1 ton / 2000 lb = 12.5 ton/hr

Emission factor basis can be found at the EPA page for **"Technical Memoranda for Sawmills, Region 10"** https://www.epa.gov/caa-permitting/technical-memoranda-sawmills-region-10

Emission Unit #01B Mill Line C				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	$P \leq 0.5$ ton/hr E = 2.34 lb/hr $0.5 < P \leq 30$ $E = 3.59 \times P^{0.62}$	401 KAR 59:010, Section 3(2)	0.875 lb/1000 board ft (EPA Region 10 Sawmill Memo)	Proper operation and maintenance of control device
	20% opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly visual observation and recordkeeping.

Construction Date: Listed by emission point:
EP20 – 2003
EP21-25 – 6/1/2016
EP26 – 2004
EP27-31 – 1999
EP32 – 1999
EP33, 34 – 1999

Emission Unit #01B Mill Line C

Process Description:
EU 01B is a common stack from the control device that controls emissions from a group of emission points. Mill Line C is comprised of the following emission points:

Emission Point:	Name:	Control Device:	Control Efficiency:
EP20	Hasko Rip Saw	Dust Collector DC2	99.9%
EP21-25	2 System TM Saws	Dust Collector DC2	99.9%
EP26	Hasko Sidematcher	Dust Collector DC2	99.9%
EP27-31	Finished Knot Saws	Dust Collector DC2	99.9%
EP32	Salvage Saw	Dust Collector DC2	99.9%
EP33, 34	Hasko Endmatcher	Dust Collector DC2	99.9%

The equipment capacity is 5,000 board feet per hour (12.5 ton/hr)
Control Device: Fabric Filter Dust Collector (DC2), Constructed 1999
Control Efficiency: 99.9% Particulate Matter

Applicable Regulation:
401 KAR 59:010, *New process operations* is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

Comments:
The emissions from Mill Line C are controlled by dust collector DC2. The fabric filter dust collector was constructed in 1999 and has a control efficiency of 99.9% for particulate matter.

Update from APE20190002: For EP21-25, the automatic saws were replaced with 2 new automatic saws (2 System TM Saws). Somerset explained that the new saws have the same throughput and emissions data as the previous saws. Installed 6/2016.

Board feet per hour was converted to tons per hour using the following equation. Assume a conservative 5 lb / bd-ft estimate for the weight of Red and White Oak processed.
5,000 bdft/hr * 5 lb/bdft *1 ton / 2000 lb = 12.5 ton/hr

Emission factor basis can be found at the EPA page for **"Technical Memoranda for Sawmills, Region 10"** https://www.epa.gov/caa-permitting/technical-memoranda-sawmills-region-10

Emission Unit #01C Wood Hog and Wood Silos				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	$P \leq 0.5$ ton/hr $E = 2.34$ lb/hr $0.5 < P \leq 30$ $E = 3.59 \times P^{0.62}$	401 KAR 59:010, Section 3(2)	0.0025 lb/1000 board ft (EPA Region 10 Sawmill Memo)	Proper operation and maintenance of control device
	20% opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly visual observation and recordkeeping.

Construction Date: Listed by emission point:
Wood Silo #1 – 1999
Wood Silo #2 – 1995
Scrap Wood Hog – 2000
Wood Waste Dust Collector DC1 – 2009
Wood Waste Dust Collector DC2 – 2009

Process Description:
EU 01C is a common stack from the control device that controls emissions from a group of emission points. 01C is comprised of the following emission points regarding the wood hog, wood silos, and wood waste dust collectors:

Emission Point:	Control Device:	Control Efficiency:
Wood Silo #1	Dust Collector DC4	99.9%
Wood Silo #2	Dust Collector DC4	99.9%
Scrap Wood Hog	Dust Collector DC4	99.9%
Wood Waste Dust Collector DC1	Dust Collector DC4	99.9%
Wood Waste Dust Collector DC2	Dust Collector DC4	99.9%

Waste wood and wood dust is collected from other emission units at the facility and transported to the two wood silos through the wood hog.
The capacity of each dust collector (DC1 and DC2) is 5,000 board feet per hour. Total throughput is 10,000 board feet per hour (25 ton/hr).
Control Device: Fabric Filter Dust Collector (DC4), Constructed 1995
Control Efficiency: 99.9% Particulate Matter

Applicable Regulation:
401 KAR 59:010, *New process operations* is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

Emission Unit #01C Wood Hog and Wood Silos

Comments:
The emissions from the wood hog and wood silos processes are controlled by dust collector DC4. The fabric filter dust collector was constructed in 1995 and has a control efficiency of 99.9% for particulate matter.

Board feet per hour was converted to tons per hour using the following equation. Assume a conservative 5 lb / bd-ft estimate for the weight of Red and White Oak processed.
10,000 bdft/hr * 5 lb/bdft *1 ton / 2000 lb = 25 ton/hr

Emission factor basis can be found at the EPA page for **"Technical Memoranda for Sawmills, Region 10"** https://www.epa.gov/caa-permitting/technical-memoranda-sawmills-region-10

Emission Unit #02 Storage and Truck Unloading

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	$P \leq 0.5$ ton/hr E = 2.34 lb/hr $0.5 < P \leq 30$ $E = 3.59 \times P^{0.62}$	401 KAR 59:010, Section 3(2)	0.001875 lb/1000 board ft (*See Comments)	Proper operation and maintenance of control device
	20% opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly visual observation and recordkeeping.

Construction Date: 2/9/1995

Process Description:
The emission unit encompasses the activities associated with wood storage, loading, and unloading from trucks. This includes moving and stacking green wood from the storage yard, to the stacker, then to the kilns. All trucks travel on paved roads.

The current yearly throughput is at most 45,000,000 board ft / year (12.8 ton/hr).

Applicable Regulation:
401 KAR 63:010, *Fugitive Emissions*, is applicable to each affected facility (road) that emits or could emit fugitive emissions not elsewhere subject to an opacity standard within 401 KAR Chapters 50 through 68.

Comments:
Somerset Hardwood Flooring requested to remain at 45,000,000 board ft / year capacity in 2024 during the September 5th, 2024 site visit. While Somerset does not currently process 45 million bdft/yr, they explained they have the capacity to do so and requested the permit to remain at that capacity.

* Emission factor is from "*EPA Region 10 Particulate Matter Potential to Emit Emission Factors for*

Emission Unit #02 Storage and Truck Unloading

Activities at Sawmills, Excluding Boilers, Located in Pacific Northwest Indian Country, May 2014". See the table on P.2. "Drop of wet material". Convert "lb/bdt" (pounds of particulate per bone dry ton) to "lb / 1000 board ft":
(0.0075 lb PM / ton wood) * (1 ton / 2000 lb) * (5 lb / 1 board ft) * 1000 board ft = 0.001875 lb/1000bdft

Board feet per year was converted to tons per hour using the following equation. Assume a conservative 5 lb / bd-ft estimate for the weight of Red and White Oak processed.
45,000,000 bdft/yr * 1yr / 8760hr * 5 lb/bdft *1 ton / 2000 lb = 12.8 ton/hr

Emission Unit #03 Paved and Unpaved Roads

Construction Date: 1995

Process Description:
Facility truck traffic for wood transportation on paved roads. Truck types and their miles traveled are listed in the table below:

Vehicle Type	Average Vehicle Weight	Vehicle Miles Traveled / year
Dust Truck	21.5 tons/truck	465 VMT/yr
Incoming Lumber Trucks	22.5 tons/truck	700 VMT/yr

Applicable Regulation:
401 KAR 63:010, *Fugitive Emissions*, is applicable to each affected facility (road) that emits or could emit fugitive emissions not elsewhere subject to an opacity standard within 401 KAR Chapters 50 through 68.

Comments:
Somerset Hardwood Flooring provided the vehicle data in email *9-9-2024 – Site Visit Follow Up*. The incoming lumber trucks carry approximately 9000 board feet per truckload. Somerset stated that trucks only travel on paved roads when on company property (See email *9-9-2024 - Site Visit Follow Up*).

The permittee shall monitor and maintain records of the tons of wood transported on a monthly basis.

Emission Unit #05-06 Two Indirect Heat Exchangers				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	0.49 lb/MMBtu	401 KAR 59:015, Section 4(1)(c)	7.6 lb/MMscf (AP-42 Ch. 1.4 Table 1.4-2)	Assumed based upon natural gas combustion
	20% opacity, except for 40% for 6 minutes in any 60 minutes and from building a new fire	401 KAR 59:015, Section 4(2)	N/A	Assumed based upon natural gas combustion
SO_2	2.37 lb/MMBtu	401 KAR 59:015, Section 5(1)(c)2.b.	0.6 lb/MMscf (AP-42 Ch. 1.4 Table 1.4-2)	Assumed based upon natural gas combustion

Initial Construction Date: 1975

Process Description:
Two Cleaver Brooks natural gas fired boilers. 3.30 MMBtu/hr each

Applicable Regulation:
401 KAR 59:015, *New indirect heat exchangers*, is applicable to indirect heat exchangers having a heat input capacity greater than 1 million BTU per hour (MMBtu/hr) and commenced on or after April 9, 1972.

State-Origin Requirements:
401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

Comments:
The facility must monitor and maintain records of natural gas usage (MMscf) on a monthly basis.
Cleaver Brooks natural gas boiler
Natural gas fueled, 3.30 MMBtu/hr

The compliance demonstration method equation for EU 05-06 as seen in Section D was derived as follows.

$$\frac{84\ lbs\ CO}{MMScf\ N.G.} \times \frac{1\ ton\ CO}{2000\ lbs\ CO} = \frac{0.42\ tons\ CO}{MMScf\ N.G.}$$

$$CO_{EU05-06} = \frac{N.G.\ usage\ (MMScf)}{month} \times \frac{0.42\ tons\ CO}{MMScf\ N.G.} = \frac{tons\ CO}{month}$$

Emission Unit #07 Flooring Finishing Line Sander				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	$P \leq 0.5$ ton/hr E = 2.34 lb/hr $0.5 < P \leq 30$ $E = 3.59 \times P^{0.62}$	401 KAR 59:010, Section 3(2)	9.59×10^{-5} lb/1000 board ft (AP-42 Ch. 10.9 Table 10.9-7)	Proper operation and maintenance of control device
	20% opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly visual observation and recordkeeping.

Construction Date: 1999

Process Description:
Sander on the finishing line process. The sander is designated as emission point 40 internally.
The rated capacity is 5,000 board feet per hour (12.5 ton/hr).
Control Device: Fabric Filter Dust Collector (DC3), Constructed 1999
Control Efficiency: 99.9% Particulate Matter

Applicable Regulation:
401 KAR 59:010, *New process operations* is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

Comments:
The emissions from EU 07 are controlled by dust collector DC3. The fabric filter dust collector was constructed in 1999 and has a control efficiency of 99.9% for particulate matter.

Board feet per hour was converted to tons per hour using the following equation. Assume a conservative 5 lb / bd-ft estimate for the weight of Red and White Oak processed.
5,000 bdft/hr * 5 lb/bdft *1 ton / 2000 lb = 12.5 ton/hr

Emission Unit #08 Indirect Heat Exchanger				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	0.49 lb/MMBtu	401 KAR 59:015, Section 4(1)(c)	3.55 lb/ton (AP-42 Ch. 1.6 Table 1.6-1)	Assumed while control device is operational
	20% opacity, except for 40% for 6 minutes in any 60 minutes and from building a new fire	401 KAR 59:015, Section 4(2)	N/A	Weekly opacity observation and recordkeeping

Emission Unit #08 Indirect Heat Exchanger				
SO_2	3.89 lb/MMBtu	401 KAR 59:015, Section 5(1)(c)3.b.	0.225 lb/ton (AP-42 Ch. 1.6 Table 1.6-2)	Assumed based upon wood combustion

Construction Date: 1975

Process Description:
One Johnson wood fired boiler. 11 MMBtu/hr. Wood boilers burn the scrap wood collected during flooring production.

Applicable Regulation:
401 KAR 59:015, *New indirect heat exchangers*, is applicable to indirect heat exchangers having a heat input capacity greater than 1 million BTU per hour (MMBtu/hr) and commenced on or after April 9, 1972.

401 KAR 63:002, Section 2(4)(jjjjj), 40 C.F.R. 63.11193 through 63.11237, Tables 1 through 8 (**Subpart JJJJJJ**), *National Emission Standards for hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* is applicable to industrial boilers located at an area source of HAPs.

Comments:
Johnson Wood Boiler
Wood fired, 11 MMBtu/hr
Control Device: Hurst multi-cyclone fly-ash collector, Constructed August 2016
Control Efficiency: 80% for PM

Somerset Hardwood Flooring burns 93% dry wood and 7% wet wood (See APE2009002 POC table, "Table 4 Combustion" sheet).

The permittee must monitor and maintain records of the amount of wood material combusted (tons) on a monthly basis.

The Johnson Wood Boiler was originally installed with a multi-cyclone fly-ash collector in 1975. In August 2016, the cyclone was replaced with a new Hurst multi-cyclone fly-ash collector which is larger and more efficient (80% control efficiency). See APE20160001 submitted letter for reference.

The compliance demonstration method equation for EU 08 as seen in Section D was derived as follows.

$$\frac{0.6\ lbs\ CO}{1\ MMBtu} \times \frac{1\ MMBtu}{10^6\ Btu} \times \frac{4500\ Btu}{1\ lb_{wood}} \times \frac{2000 lb_{wood}}{1 ton_{wood}} \times \frac{1 ton\ CO}{2000\ lb\ CO} = \frac{0.0027\ tons\ CO}{ton_{wood}}$$

$$CO_{EU08 and 09} = \frac{fuel\ usage\ (tons)}{month} \times \frac{0.0027\ tons\ CO}{ton\ fuel} = \frac{tons CO}{month}$$

Emission Unit #09 Indirect Heat Exchanger				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	0.39 lb/MMBtu	401 KAR 59:015, Section 4(1)(c)	3.55 lb/ton (AP-42 Ch. 1.6 Table 1.6-1)	Assumed while control device is operational
	20% opacity, except for 40% for 6 minutes in any 60 minutes and from building a new fire	401 KAR 59:015, Section 4(2)	N/A	Weekly opacity observation and recordkeeping
SO_2	2.55 lb/MMBtu	401 KAR 59:015, Section 5(1)(c)3.b.	0.225 lb/ton (AP-42 Ch. 1.6 Table 1.6-2)	Assumed based upon wood combustion

Construction Date: 2001

Process Description:
One Hurst wood fired boiler. 28.7 MMBtu/hr. Wood boilers burn the scrap wood collected during flooring production.

Applicable Regulation:
401 KAR 59:015, *New indirect heat exchangers*, is applicable to indirect heat exchangers having a heat input capacity greater than 1 million BTU per hour (MMBtu/hr) and commenced on or after April 9, 1972.

401 KAR 63:002, Section 2(4)(jjjjj), 40 C.F.R. 63.11193 through 63.11237, Tables 1 through 8 (**Subpart JJJJJJ**), *National Emission Standards for hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* is applicable to industrial boilers located at an area source of HAPs.

Comments:
Hurst Wood Boiler
Wood fired, 28.7 MMBtu/hr
Control Device: Hurst multi-cyclone fly-ash collector, Constructed 2016
Control Efficiency: 80% for PM

Both EU 08 and EU 09 are connected to the same cyclone collector.

Somerset Hardwood Flooring burns 93% dry wood and 7% wet wood (See APE2009002 POC table, "Table 4 Combustion" sheet).

The permittee must monitor and maintain records of the amount of wood material combusted (tons) on a monthly basis.

The compliance demonstration method equation for EU 09 as seen in Section D was derived as follows.

Emission Unit #09 Indirect Heat Exchanger

$$\frac{0.6\ lbs\ CO}{1\ MMBtu} \times \frac{1\ MMBtu}{10^6\ Btu} \times \frac{4500\ Btu}{1\ lb_{wood}} \times \frac{2000 lb_{wood}}{1 ton_{wood}} \times \frac{1 ton\ CO}{2000\ lb\ CO} = \frac{0.0027\ tons\ CO}{ton_{wood}}$$

$$CO_{EMISSIONS} = \frac{fuel\ usage\ (tons)}{month} \times \frac{0.0027\ tons\ CO}{ton\ fuel} = \frac{tons CO}{month}$$

Emission Unit #10 Stain Roller Station

Construction Date: 1999

Process Description:
Roller coating station used to apply stains to finished hardwood flooring boards.
Rated capacity: 3 gallon/hr

Applicable Regulation:
401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

Comments:
Somerset Hardwood Flooring provided updated safety data sheets for their current stain coatings in the email *9-9-2024 - Site Visit Follow Up*. The throughput and equipment remain the same. The coatings changed from 2014 to 2024. Most notably, Somerset changed to utilizing low VOC coatings that do not contain HAPs and only emit VOCs.

Emission Unit #11 Propane Fired Emergency Generator

Construction Date: 2014

Process Description:
Generac propane fueled emergency electrical generator

Applicable Regulation:
401 KAR 60:005, Section 2(2)(eee), 40 CFR 60.4230 through 60.4248, Tables 1 through 4 (**Subpart JJJJ**), *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines* is applicable to stationary spark ignition (SI) emergency engines greater than 25 hp for which construction is commenced after June 12, 2006 and which are manufactured after January 1, 2009.

401 KAR 63:002, Section 2(4)(eeee), 40 CFR 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (**Subpart ZZZZ**), *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* is applicable. Pursuant to 40 CFR 63.6590(c)(1), new or

Emission Unit #11 Propane Fired Emergency Generator
reconstructed stationary RICE located at an area source shall meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart JJJJ. No further requirements apply to this engine under 40 CFR 63. **Comments:** Generac propane emergency generator, model number QT02515ANSX Propane fueled, 48 HP (25kW) (0.12 MMBtu/hr) (25KVA), 3600 RPM Model year: 2013 Engine Family: DGNXB01.52NL EPA Certificate No.: DGNXB01.52NL-001 The compliance demonstration method equation for EU 11 as seen in Section D was derived as follows. $\frac{3.72\ lb\ CO}{1\ MMBtu_{propane}} \times \frac{90.5\ MMBtu}{1\ Mgal} \times \frac{1\ Mgal}{1000\ gal} \times \frac{1\ ton\ CO}{2000\ lb\ CO} = \frac{0.000168\ ton\ CO}{1\ gal_{propane}}$ $CO_{EU11} = \frac{fuel\ usage\ (gal)}{month} \times \frac{0.000168\ tons\ CO}{gal\ fuel} = \frac{tons\ CO}{month}$

Emission Unit #12 Prewash Line				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	P ≤ 0.5 ton/hr E = 2.34 lb/hr 0.5 < P ≤ 30 $E = 3.59 \times P^{0.62}$ P > 30 $E = 17.31 \times P^{0.16}$	401 KAR 59:010, Section 3(2)	0.0656 lb/1000 board ft (Engineering Estimate)	Proper operation and maintenance of control device
	20% opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly visual observation and recordkeeping.
Construction Date: 05/2024 **Process Description:** Prewash line consisting of a sander and roll coater to apply stains to pre-finished hardwood flooring. Costa sander, model number 70 CCT 1150 Sander rated capacity: 125 board feet per hr (0.3125 ton/hr) Roll Coater Capacity: 1.03 gallon/hr Control Device: Foust Metal Works, Inc. fabric filter dust collector (DC5), Constructed 2/1/2020 Control Efficiency: 99.9% **Applicable Regulation:**				

Emission Unit #12 Prewash Line
401 KAR 59:010, *New process operations* is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975. **Comments:** See application APE20240001 P.26 for emission factor. The stains only emit VOCs and do not contain HAPs. See email *9-9-2024 - Site Visit Follow Up* for the stain SDS sheets. Board feet per hour was converted to tons per hour using the following equation. Assume a conservative 5 lb / bd-ft estimate for the weight of Red and White Oak processed. 125 bdft/hr * 5 lb/bdft *1 ton / 2000 lb = 0.3125 ton/hr

Emission Unit #13 Engineered Line				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	$P \leq 0.5$ ton/hr E = 2.34 lb/hr $0.5 < P \leq 30$ $E = 3.59 \times P^{0.62}$ $P > 30$ $E = 17.31 \times P^{0.16}$	401 KAR 59:010, Section 3(2)	0.127 lb/1000 board ft (Engineering Estimate)	Proper operation and maintenance of control device
	20% opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly visual observation and recordkeeping.

Construction Date: 05/2024

Process Description:
Engineered Line consists of a number of woodworking and gluing equipment to produced engineered hardwood flooring products. These flooring products are commonly referred to as “laminate” flooring. Woodworking emission points grouped together under Emission Unit 13 are listed below:

Process ID	Name	Description	Manufacturer & Model No.	Construction Date
13A	Core Rip Saw	Core sawing	Paul Saw K34G	05/2024
13B	Core Sander	Core sanding	Crosscut Solutions CS14ML	05/2024
13C	Press	Press	Eagle	05/2024
13D	Bottom Sander	Sands bottom of product	N/A	05/2024
13E	Top Sander	Sands top of product	Costa K CCT 1350	05/2024

Emission Unit #13 Engineered Line

13F	Side Match	Matches sides of product together	Homag FPR 225	05/2024
13G	Chop Saw	Saw	Crosscut Solutions CS14ML	05/2024
13H	End Match	Matches ends of product together	Hasko HESM-C	05/2024
13I	Defect Chop Saws	Removes defects from product	Weining Opticut 200	05/2024
13J	Splitter Saws	Splits product	Wintersteiger DSG Sonic, Wintersteiger DSG 200, Ogden Power Plus, Shroeder S-4/2 XL	05/2024
13K	Face Chop Saws	Saws	N/A	05/2024
13L	Planer	Planer	N/A	05/2024

The Hot Melt Glue machine used to assemble the sections of the laminated boards has a rated capacity of 1.22 gallons/hr.
Woodworking equipment combined total capacity: 10,549 board feet per hr (26.3725 ton/hr)
Control Device: Foust Metal Works, Inc. fabric filter dust collector (DC6), Constructed 5/27/2024
Control Efficiency: 99.9%

Applicable Regulation:
401 KAR 59:010, *New process operations* is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

Comments:
See application APE20240001 P.26 for emission factor.
Hot melt glue only emits VOC, see application APE20240001 P.28.

Board feet per hour was converted to tons per hour using the following equation. Assume a conservative 5 lb / bd-ft estimate for the weight of Red and White Oak processed.
10,549 bdft/hr * 5 lb/bdft *1 ton / 2000 lb = 26.3725 ton/hr

Emission Unit #14 Finish Line Drying Oven (steam)

Construction Date: 1999

Process Description:
Finish Line Drying Oven (steam) is also referred to as the following internally:
Emission Unit EU42 (EP11) Backup Natural Gas Burner (1.2 MMBtu/hr heat input capacity for Burner)

Applicable Regulation:
401 KAR 59:015, *New indirect heat exchangers*, is applicable to indirect heat exchangers having a heat input capacity greater than 1 million BTU per hour (MMBtu/hr) and commenced on or after April 9, 1972.

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality. [State-Origin Requirement]

Comments:
The oven assists in drying finished flooring. The finish line drying oven was categorized as an IA until the 2024/25 renewal.

Insignificant Activity: Emission Unit #15 16 Lumber Drying Kilns

Construction Date: 1999

Process Description:
16 Wood Drying Kilns used to dry all incoming lumber before being processed.
Total capacity is 45,000,000 board feet per year.

Applicable Regulation:
401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality. [State-Origin Requirement]

Comments:
16 total kilns. 15 are active and 1 is inactive according to the site visit performed in September 2024.
Input wood moisture content is between 15-60% and is dried to 6-8% moisture.
Wood is dried for varying times depending on initial moisture content however a 2.5 week drying cycle is typical according to Somerset.
All wood is dried in the kilns before being used in production.
Kilns 1-7 are older and have individual control monitors. Kilns 8-16 are newer and are controlled by a central computer.

Insignificant Activity: Emission Unit #15 16 Lumber Drying Kilns
PM emission factor was obtained from EPA Region 10 memo, Table 1 "Lumber Drying". The memo can be found at **"Technical Memoranda for Sawmills, Region 10"** https://www.epa.gov/caa-permitting/technical-memoranda-sawmills-region-10 The unit is labeled EU 15 because the finish line drying oven was already assigned EU 14. If the facility increases the capacity for lumber drying kilns, the PTE may increase above the insignificant activity threshold and cause EU 15 to become an emission unit.

Insignificant Activity: Finish Line
Construction Date: 1999 **Process Description:** Finish Line is comprised of Emission Units EU43 thru EU59 (EP12-EP22) The finish line process units include: Filler Station, Sealer and Topcoat Roller Application Station, UV Cure Sections, and Inspection / Rework Station **Applicable Regulation:** **401 KAR 59:010**, *New process operations* is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975. **State-origin Requirement:** **401 KAR 63:020**, *Potentially hazardous matter or toxic substances*, is applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality. **Comments:** Most of the finish line machines are Hasko machines according to Somerset during the September 2024 site visit.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results
N/A

Footnotes:
N/A

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
90 tpy of VOC emissions	To preclude 401 KAR 52:020, *Title V permits*	Source-wide
90 tpy of PM emissions	To preclude 401 KAR 52:020, *Title V permits*	Source-wide
9 tpy of single HAP emissions	To preclude 401 KAR 52:020, *Title V permits*	Source-wide
22.5 tpy of combined HAP emissions	To preclude 401 KAR 52:020, *Title V permits*	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010, *New process operations*	EU 01A-1, 01A-2, 01A-3, 01B, 01C, 02, 07, 12, & 13
401 KAR 59:015, *New indirect heat exchangers*	EU 05-06, 08, 09, & 14
401 KAR 60:005, Section 2(2)(eee), 40 CFR 60.4230 through 60.4248, Tables 1 through 4 (Subpart JJJJ), *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*	EU 11
401 KAR 63:002 Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ) *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.*	EU 11
401 KAR 63:002, Section 2(4)(jjjjj), 40 C.F.R. 63.11193 through 63.11237, Tables 1 through 8 (Subpart JJJJJJ), *National Emission Standards for hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*	EU 08 & 09
401 KAR 63:010, *Fugitive Emissions*	EU 02 & 03
401 KAR 63:020, *Potentially hazardous matter or toxic substances.*	EU 05-06 & 10

Table C - Summary of Precluded Regulations:

N/A

Table D - Summary of Non Applicable Regulations:

N/A

Air Toxic Analysis

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*
The Division for Air Quality (Division) has performed modeling using SCREEN View on December 26, 2024 of potentially hazardous matter or toxic substances (Toluene) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

Single Source Determination
N/A

SECTION 5 - PERMITTING HISTORY

Permit	Permit type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
S-95-104	Initial	---	4/7/1995	4/7/1995	Initial Construction Permit	N/A
F-99-022	Initial	---	6/10/1999	10/12/1999	Initial Conditional Major Permit	N/A
F-99-022 R1	Minor Revision	---	11/16/2001	1/4/2002	Added wood fired boiler EU 09	N/A
F-04-025	Renewal	APE20040002	8/10/2004	5/19/2005	Renewal; Added new planer	N/A
F-09-042	Renewal	APE20090002	11/15/2009	4/7/2010	Renewal; Updated equipment list for EUs	N/A
F-14-049	Renewal	APE20140003	11/1/2014	3/15/2015	Renewal; Added EU011 propane emergency generator	N/A

SECTION 6 – PERMIT APPLICATION HISTORY

None.

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS – Ambient Air Quality Standards
BACT – Best Available Control Technology
Btu – British thermal unit
CAM – Compliance Assurance Monitoring
CO – Carbon Monoxide
Division – Kentucky Division for Air Quality
ESP – Electrostatic Precipitator
GHG – Greenhouse Gas
HAP – Hazardous Air Pollutant
HF – Hydrogen Fluoride (Gaseous)
MSDS – Material Safety Data Sheets
mmHg – Millimeter of mercury column height
NAAQS – National Ambient Air Quality Standards
NESHAP – National Emissions Standards for Hazardous Air Pollutants
NO_x – Nitrogen Oxides
NSR – New Source Review
PM – Particulate Matter
PM_{10} – Particulate Matter equal to or smaller than 10 micrometers
$PM_{2.5}$ – Particulate Matter equal to or smaller than 2.5 micrometers
PSD – Prevention of Significant Deterioration
PTE – Potential to Emit
SO_2 – Sulfur Dioxide
TF – Total Fluoride (Particulate & Gaseous)
VOC – Volatile Organic Compounds

APPENDIX B – INDIRECT HEAT EXCHANGER EMISSION LIMITATIONS

EU	Fuel(s)	Capacity (MMBtu/hr)	Constructed	Removed	Basis for PM Limit	Total Heat Input Capacity for PM Limit (MMBtu/hr)	PM Limit (lb/MMBtu)	Basis for SO_2 Limit	Total Heat Input Capacity for SO_2 Limit (MMBtu/hr)	SO_2 Limit (lb/MMBtu)
08	Wood	11	1975	N/A	401 KAR 59:015, Section 4(1)(c)	17.6	0.49	401 KAR 59:015, Section 5(1)(c)3.b.	11	4.79
05	Natural Gas	3.30	1975	N/A	401 KAR 59:015, Section 4(1)(c)	17.6	0.49	401 KAR 59:015, Section 5(1)(c)2.b.	6.6	3.55
06	Natural Gas	3.30	1975	N/A	401 KAR 59:015, Section 4(1)(c)	17.6	0.49	401 KAR 59:015, Section 5(1)(c)2.b.	6.6	3.55
14	Natural Gas	1.2	1999	N/A	401 KAR 59:015, Section 4(1)(c)	18.8	0.48	401 KAR 59:015, Section 5(1)(c)2.b.	7.8	3.32
09	Wood	28	11/15/2001	N/A	401 KAR 59:015, Section 4(1)(c)	46.8	0.39	401 KAR 59:015, Section 5(1)(c)3.b.	39	2.73

PM emission limit $E_P = 0.9634\ (T^{-0.2356})$ where T is the total heat input capacity.
Gaseous Fuel: SO_2 emission limit $E_S = 7.7223\ (T^{-0.4106})$ where T is the total heat input capacity.*
Solid Fuel: SO_2 emission limit $E_S = 13.8781\ (T^{-0.4434})$ where T is the total heat input capacity.*
*For SO2 emission limits, T is the sum of heat inputs from active units of a given fuel type.