Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Title V, Operating
Permit: V-24-030
The Freeman Corporation
415 Mangolia Street
Winchester, KY 40392

April 16, 2025
Ossama Ateyeh, Reviewer

SOURCE ID:	21-049-00004
AGENCY INTEREST:	811
ACTIVITY:	APE20190001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 2435; Hardwood Veneer and Plywood

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

PTE* greater than 100 tpy for an11111y 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 250 tpy for any criteria air pollutant ☐ Yes ☒ No
If yes, for what pollutant(s)? 11
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

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PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☐ Yes ☒ No
If yes, list which pollutant(s):
PTE* greater than 25 tpy for combined HAP ☐ Yes ☒ No

*PTE does include self-imposed emission limitations.

Description of Facility:
The Freeman Corporation (Freeman) manufactures wood veneer products. Operations include receipt and storage of logs in an outside log yard, processing of logs in cooking vats, debarking, trimming, sawing, slicing, and drying operations. Freeman collects bark and round-up waste to sell to local and distant mulch producers. All other wood waste is utilized as fuel in three wood waste fired boilers. During the winter months, some sawdust and wood chips are purchased from outside suppliers to supplement internally generated wood waste for boiler operations.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: V-24-030 Activities: APE20190001

Received: June 28, 2019 Application Complete Date(s): September 25, 2019

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

Construction/Modification Requested? ☒Yes ☐No NSR Applicable? ☐Yes ☒No

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

Description of Action:
Freeman installed Paul Saw 01 in July 2014 and proposes to add two more units (Paul Saw 02 and Veneer sizing Band saw) in the immediate future. The units are identified in the renewal application as emission unit (EU) 63, EU 64 and EU 65. Additional material was received on September 20, 2019 regarding the Notice of Deficiency sent on August 22, 2019. During the review process, additional information was received on May 25, 2021, requesting updates be made to the permit based on changes that had taken place. The updates are as follows:

Emission Units 05, 09, and 13, natural gas-fired boilers, were listed in the previous permit application but were never installed.

Three new Emission Units are added here: Paul Saw_01, Paul Saw_02, and Veneer Sizing Bandsaw. Paul Saw_01 was installed in July 2017. The other two units are planned for future installation.

Emission factors for the three operating wood waste boilers have been adjusted to reflect results of stack testing conducted by FBT Environmental Services, LLC to be used for actual emissions calculations only.

Haul Roads & Log Yard: Being converted from unpaved surfaces to paved surfaces; however, since the majority of log inventory is blocking the roads from being completely paved, emissions will continue to be based on unpaved surfaces until all roads have been paved or at least a majority has been completed. Applicable regulations are the same for paved and unpaved surfaces; only the emissions profiles differ.

APE20220001: Off permit change received on 5/31/2022 to update the belt conveyor system, which feeds wood to the boilers (EUs 41 & 42). The new conveyor system will be fully enclosed, reducing emissions by approximately 85%. Uncontrolled emissions from EU 42 will remain above the threshold to be considered an insignificant activity, so the emission unit remains in Section B of the permit.

APE20230001: Off permit change received 1/3/2023 to change the method used to quantify emissions from the wood-fired boilers. Rather than directly measuring the weight of wood fuel to calculate emissions from the boilers, the facility has developed a methodology based on fuel content of the wood burned, steam meter data, and an assumed boiler efficiency.

Additional information listed in the table below, is provided for clarification as part of the review conducted during the renewal process:

Emission Point	Additional Information
EP10	Unpaved roads are currently being paved, but PTE is based on unpaved roads.
EP63	Paul Saw#1 Installation of equipment was complete and start-up began in July of 2017. Maximum production rate was achieved within 6 months of the start-up date.
EP64	Paul Saw #2 equipment is still in modification and construction phase.
EP65	Veneer Sizing Bandsaw Installation complete and start-up began in June 2020. Maximum production rate was achieved within 3 months of start-up date.
EP17	Log Cooking Vats (Rotary) – Construction on these replacement vats began in March of 2014 and the concrete pad, steel frame and associated cherry picker were complete in May of 2019; however, due to changing market conditions, further construction of these replacement vats was suspended. Currently, this vat structure holds two self-contained temporary slicer vats and those slicer vats are occasionally used. Further construction has been halted.
EP40	Should be labeled Chip Unloading from Trucks to Storage". We no longer buy sawdust, just chips
EP37	APE2022001 All these Emision units were removed by this Renewal action and no longer used based on a letter dated August 23,2024.
EP41	
EP55	
EP56	
EP57	
EP58	
EP61	
EP60	Elliot Bay Clipper ("Super Clipper") Installation and operation began on 5/3/2010 with maximum production being reached within one month of startup.
EP62	New Butt-End reducer, bark bin – Installation was complete and startup began in August 2019 with maximum production rate achieved within 1 month of startup.

V-24-030 Emissions Summary					
Pollutant	**2023 Actual (tpy)**	**Previous PTE V-14-007 (tpy)**	**Change (tpy)**	**Uncontrolled PTE V-24-030 (tpy)[a]**	**Controlled PTE V-24-030 (tpy)[a]**
CO	45	130	3.7	133.7	133.70
NOx	16.50	47.72	1.14	48.86	48.85
PT	33.55	128	-25.87	232.8	102.13
PM_{10}	32.91	93.93	-6.33	184.5	87.60
$PM_{2.5}$	24.50	43.56	30.0	147.6	73.55
SO_2	1.87	4.42	1.13	5.55	5.55
VOC	1.82	9.82	6.13	15.95	15.95
Lead	0.00	0	0.01	0.01	0.01
Greenhouse Gases					
Carbon Dioxide	16,374	42,296	1,006	43,302	43,302
Methane	1.76	4.55	0.12	4.66	4.67
Nitrous Oxide	1.09	2.82	0.07	2.89	2.89
CO_{2e}:	16,743	43,265	1,015	44,280	44,280
HAPs					
Total HAPs:	2.32	7.91	8.33	16.24	16.24
4-Methyl-2-Pentanol			1.78	1.78	1.78
Acetaldehyde		0.18	2.07	2.25	2.25
Acrolein		0.87	0.02	0.89	0.89
Arsenic Total				0	0
Benzene	0.35	0.91	0.02	0.93	0.93
Clorine				0.18	0.18
Chromium,				0.0	0.0
Formaldehyde	0.37	0.95	0.46	1.41	1.41
Hydrochloric Acid		1.6	2.62	4.22	4.22
Manganese				0.355	0.355
Methanol				3.54	3.54
Styrene				0.42	0.42

[a] Does not include fugitive emissions, as defined in 401 KAR 51:001, Section 1(80) and in 401 KAR 52:001, Section 1(38).

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit #011, 012 & #015 Wood Fired Indirect Heat Exchangers (Boilers)					
Pollutant		**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	EU 011	0.46 lb/MMBtu	401 KAR 59:015, Section 4(1)(c)	AP-42 Chapter 1.6-1	Assumed while combusting clean wood and clean wood waste & using AP 42 emission factors
	EU 012	0.42 lb/MMBtu			
	EU 015	0.37 lb/MMBtu			
	20% opacity		401 KAR 59:015, Section 4(2)	N/A	Daily Qualitative visual observation
SO_2	EU 011	4.61 lbs/MMBtu	401 KAR 59:015, Section 5(1)	AP-42 Chapter 1.6-2	Assumed while combusting clean wood and clean wood waste & using AP 42 emission factors
	EU 012	3.52 lbs/MMBtu			
	EU 015	2.43 lbs/MMBtu			

Process Description:

Emission Unit	Model	Construction	Heat Input Capacity	Fuel ton/yr	Control
011	Wickes 62755	2/28/1991	12.0 MMBtu/hr	1.85	Multicyclone/Fly Ash Reinjection
012	Wickes 61004	5/29/1991	10.0 MMBtu/hr	1.54	
015	Hurst	8/31/1996	28.7 MMBtu/hr	4.42	

APPLICABLE REGULATIONS:

401 KAR 59:015, New Indirect Heat Exchangers, applicable to indirect heat exchangers having a heat input capacity greater than one (1) million BTU per hour (MMBtu/hr) commenced on or after April 9, 1972

401 KAR 60:005, Section 2(2)(d) 40 C.F.R. 60.40c through 60.48c (Subpart Dc), *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

401 KAR 63:002, Section 2(4)(jjjjj) 40 C.F.R. 63.11193 through 63.11237, Tables 1 through 8 (Subpar JJJJJJ), *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*

NON-APPLICABLE REGULATIONS:

401 KAR 51:017, *Prevention of significant deterioration.* The permittee has taken a source-wide limitation to avoid applicability of 401 KAR 51:017.

Comments:

New conveyor system is proposed in APE20230001 to replace the existing APE20140001. The new conveyor system which will perform the same basic function as the existing conveyor – delivering wood fuel from storage to the boilers but will be safer and more efficient. The new conveyor will be fully enclosed with sheet metal, reducing emissions of wood dust from the transfer operation by an estimated 85% .

Emission Unit #011, 012 & #015 Wood Fired Indirect Heat Exchangers (Boilers)

However after installation, the applicant could not get the weight scale to work like with the previous system.

The applicant proposes changes to the methods used to quantify the mass of fuel burned in its wood-fired boilers Using steam meter data and fuel content of wood burned and assuming boiler efficiency value of 50% it is possible to calculate mass of wood burned in tons.

Wood fuel samples are sent to a laboratory each week for analysis for heat content and recorded. Each boiler is equipped with a steam meter to measure the amount of steam energy produced by that boiler recorded daily
Using this formula [Steam produced MMBtu / Efficiency * Heat content MMBut/ton = Mass of wood] in tons

The mass of wood fuel burned is a key parameter dictating boiler emissions. Meter readings must be recorded daily, and the meter maintained in good working order. The meter must be calibrated periodicaly.

See APPENDIX B – INDIRECT HEAT EXCHANGER EMISSIONS LIMITATIONS for details of emission limit calculations.

Emission Unit #44 Cyclone 1 (EP 44) Freeman installed 1997; Controls Emission Units 21-25a, 25b, 26, 32-34, 59, 60 and 63-65 Board & Veneer Processing				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	$E = 2.34$ ($P \leq 0.5$) $E = 3.59P^{0.62}$ ($0.5 < P < 30$) Where: P = Process Rate in tph E = Emission Rate in lb/hr	401 KAR 59:010, Section 3(2)	Emission factors were developed by facility based on in-house measurements	Cyclone 1
	20% opacity	401 KAR 59:010, Section 3(1)(a)	NA	

Process Description: All Slicer Waste transferred to **EU 44 (Cyclone 1)**

Emission Unit	Name & Description	(A) Input Rate DF/HR	(B) Wood Waste generated LB/DF	(A*B) Waste generated LB/HR	Installation date
22	Slicer # 3 - Capital half round	600	0.381	229	6/30/1986
23	Slicer # 4 - Capital half round	600	0.381	229	4/30/1967
24	Slicer # 5 - Capital half round	600	0.381	229	7/30/1979
25a	Slicer # 1 - Capital half round	600	0.381	229	4/1/2004
25b	Slicer # 2 - Capital half round	600	0.381	229	6/23/2000
26	Flitch Rip Saw	600	Sawdust transferred to 21		6/23/2000
21	**Veneer Mill Hog**	**1145**	1	**1143**	4/15/2008
Waste from all emission units above transfer to Emission Unit 21 and 100% of waste collected transferred to EU44 Cyclone 1. All Backerboards and Rotary Core transfers to emission unit 47 Fulghum Chipper					
32	Rotary Peeler - Coe 4-ft Lathe	4,000	0.392	1,568	11/31/1991
33	Rotary Clipping	3,440	0.538	1,851	8/27/2007
59	Clipper				7/31/2006
60	Super Clipper (Capital)	10,000 ft^2/hr	0.014 lb/ft^2	140	5/3/2010
63	Paul Saw_01	600	0.084		7/1/2017
64	Paul Saw_02	600	0	0	Proposed 2025
65	Veneer Sizing Bandsaw	600	0.084		Proposed 2025
All waste from emission units above transfer to emission unit 34 Rotary Veneer Chipper except Cores from **32** route to (**47** Fulghum Chipper and transfear to emission unit 46 **Cyclone #3)**					
34	**Rotary Veneer Chipper**	**2,092 lb/hr**	**1**	**2092**	**To EP44 (Cyclone 1)**
044	**Cyclone 1**	3,652 lb/hr of Chipped wood waste from EP 21and 34 as Boiler Fuel			

0.5 lb PM is emitted for every ton of 'waste generated and transferred' to the cyclone

Emission Unit #44 Cyclone 1 (EP 44) Freeman installed 1997;
Controls Emission Units 21-25a, 25b, 26, 32-34, 59, 60 and 63-65 Board & Veneer Processing

APPLICABLE REGULATIONS

401 KAR 59:010. *New Process Operations*

401 KAR 61:020. *Existing Process Operations*, applicable only to Emission Unit 23.

NON-APPLICABLE REGULATIONS:

401 KAR 51:017, *Prevention of Significant Deterioration.* Permittee has opted to take a source-wide limitation to avoid applicability of 401 KAR 51:017.

Comments:

1. All waste from EU 22 to 26 is transferred to EU 21. 100% waste input from EU 21 transferred to Cyclone EP 44. Cyclone 1
2. All waste from EUs 32,33, 59, 60, 63 to 65 is transferred to EU 34 with the **exception** of waste Core from EU 32 which is transferred to Fulghum Chipper EU47
3. Cyclone Emission Factor used is based on wood processing emission factors from from State of Oregon Department of Environmental Quality AQ-EF02 Wood Product Cyclone – Dry and Green chips, shavings, Hogged Fuel/Bark, Green Sawdust Medium Efficiency.
4. For Emission units listed above, the Emission factor (wood waste generated) was based on actual measurements during the plant operation
   [Input Rate of wood processed DF/hr] *[Emission Factor lb/DF] = Waste Emissions lb/hr

Emission Unit #45 Cyclone 2 (EP 45) Installed 2006 Controls Emission units 14b, 18, 19 & 20 Log Processing Sawdust & Chipped Wood waste				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	E= 2.34 ($P \leq 0.5$) $E = 3.59P^{0.62}$($0.5 < P < 30$) Where: P = Process Rate in tph E= Emission Rate in lb/hr	401 KAR 59:010, Section 3(2)	Emission factors were developed by facility based on in-house measurements	Cyclone 2
	20% opacity	401 KAR 59:010, Section 3(1)(a)	NA	

Process Description:

Emission Unit	Name & Description	(A) Input Rate DF/HR	(B) Wood Waste Emissions Factor LB/DF	(A*B) Waste generated LB/HR	Installation date
14b	Log Fitching Saws	1,428	0.116	166	7/31/1990
18	Skinning Logs Line 1	2,400	0.178	427	4/30/1967
19	Flitch Cutoff Saw	2,328	0.025	58	3/31/1991
20	Planer and Groover	2,235	0.474	1059	7/16/1991
045	**Cyclone 2**	1745 lb/hr			11/22/2008

0.5 lb PM is emitted for every ton of 'waste generated and transferred' to the cyclone

APPLICABLE REGULATIONS:

401 KAR 59:010. *New Process Operations*

401 KAR 61:020. *Existing Process Operations*, applicable only to Emission Unit 18.

NON-APPLICABLE REGULATIONS:

401 KAR 51:017, *Prevention of Significant Deterioration.* Permittee has opted to take a source-wide limitation to avoid applicability of 401 KAR 51:017.

Comments:

1. Cyclone Emission Factor used is based on wood processing emission factors from from State of Oregon Department of Environmental Quality AQ-EF02 Wood Product Cyclone – Dry and Green chips, shavings, Hogged Fuel/Bark, Green Sawdust Mediam Efficiency, and is equal to 0.5 lb/2000
2. For Emission units listed above the Emission factor (wood waste generated) was based on actual measurements during the plant operation
   [Input Rate of wood processed in Doyle Feet] *[Emission Factor lb/DF] = Waste Emissions lb/hr

Emission Unit #46 Cyclone 3 (EP 46) Installed 2006 Controls Emission Unit 47 Rotary Core Chipper				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	$E = 2.34$ ($P \leq 0.5$) $E = 3.59P^{0.62}$ ($0.5 < P < 30$) Where: P = Process Rate in tph E = Emission Rate in lb/hr	401 KAR 59:010, Section 3(2)	Emission factors were developed by facility based on in-house measurements	Cyclone 3
	20% opacity	401 KAR 59:010, Section 3(1)(a)	NA	

Process Description:

Emission Unit	Name & Description	(A) Input Rate DF/HR	(B) Wood Waste generated LB/DF	(A*B) Waste generated LB/HR	Installation date
Emission Units 22, 23, 24, 25a, 25b and 32 Cores and Backer Boards are transferred to Cyclone 3					
47	Fulghum Chipper	100% Backboards and Cores Transferred to EP 46 Cyclone 3		3,248	9/15/2006
46	Cyclone 3				9/15/2006

0.5 lb PM is emitted for every ton of 'waste generated and transferred' to the cyclone

APPLICABLE REGULATIONS:

401 KAR 59:010. *New Process Operations*

NON-APPLICABLE REGULATIONS:

401 KAR 51:017, *Prevention of Significant Deterioration.* Permittee has opted to take a source-wide limitation to avoid applicability of 401 KAR 51:017.

Comments:

1. Cyclone Emission Factor used is based on wood processing emission factors from from State of Oregon Department of Environmental Quality AQ-EF02 Wood Product Cyclone – Dry and Green chips, shavings, Hogged Fuel/Bark, Green Sawdust Mediam Efficiency, and is equal to 0.5 lb/2000
2. For Emission units listed the Emission factor (wood waste generated) was based on actual measurements during the plant operation
   [Input Rate of wood processed DF/hr] * [Emission Factor lb/ DF] = Waste Emissions lb/hr

Emission Unit #08 Cyclone 4 (EP 08) Installed 2006 Controls Emission Unit 07 Three Veneer Clipping Lines and Chipper				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	$E = 2.34$ ($P \leq 0.5$) $E = 3.59P^{0.62}$ ($0.5 < P < 30$) Where: P = Process Rate in tph Emission Rate in lb/hr	401 KAR 59:010, Section 3(2)	Emission factors were developed by facility based on in-house measurements	Cyclone 4
	20% opacity	401 KAR 59:010, Section 3(1)(a)	NA	

Process Description: Process Description:

Emission Unit	Name & Description	(A) Input Rate DF/HR	(B) Wood Waste generated LB/DF	(A*B) Waste generated LB/HR	Installation date
007	Veneer Clipping Sliced Wood	120,000	0.014	1,680	9/15/2006
08	Cyclone 4	Chipped wood waste – boiler fuel			9/15/2006

0.5 lb PM is emitted for every ton of 'waste generated and transferred' to the cyclone

APPLICABLE REGULATIONS:

401 KAR 59:010. *New Process Operations*

NON-APPLICABLE REGULATIONS:

401 KAR 51:017, *Prevention of Significant Deterioration.* Permittee has opted to take a source-wide limitation to avoid applicability of 401 KAR 51:017.

Comments:
Clipping Lines # 1 + # 2 + # 3
consisting of the following equipment
(2) RFR side clippers
(1) Capital end clipper
(1) Cremona side clipper
(2) Cremona end clippers
(2) Infeed tables
(1) under floor conveyor belt
(1) Capital Hog/Chipper

1. Cyclone Emission Factor used is based on wood processing emission factors from from State of Oregon Department of Environmental Quality AQ-EF02 Wood Product Cyclone – Dry and Green chips, shavings, Hogged Fuel/Bark, Green Sawdust Mediam Efficiency, and is equal to 0.5 lb/2000
2. For Emission units listed, the Emission factor (wood waste generated) was based on actual measurements during the plant operation
   [Input Rate of wood processed DF/hr] * [Emission Factor lb/DF] = Waste Emissions lb/hr

Emission Unit # 14a, 30, 31 48 and 62 No control associated				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	$E = 2.34$ ($P \leq 0.5$) $E = 3.59P^{0.62}$ ($0.5 < P < 30$) Where: P = Process Rate in tph E = Emission Rate in lb/hr	401 KAR 59:010, Section 3(2)	Emission factors were developed by facility based on in-house measurements	Good operating procedures
	20% opacity	401 KAR 59:010, Section 3(1)(a)	NA	

Process Description: Wood Cutting Emission with no Cyclone

Emission Unit	Name & Description	(A) Input Rate DF/HR	(B) Wood Waste Emissions Factor LB/DF	(A*B) Waste generated LB/HR	Installation date
14a	Butt-end Reducer and Nicholson A-5 Debarker	4000 DF/hr	1.86	7,440	2/26/2006
30	Rotary Cut off Saw	4,000	1.166	4,664	6/30/1991
Products of 31; Waste transfer to 48					
31	Rotary Debarker/ Williams Hog	3080	0.175	539	12/31/2000
48	Nicholson Chipper	From 19 and 30	0.001	5,235	4/30/1994
62	Butt End Reducer and Bark bin	4,000 DF/hr	1.86 LB/DF	7,440	8/1/2019

APPLICABLE REGULATIONS:

401 KAR 59:010. *New Process Operations*

NON-APPLICABLE REGULATIONS:

401 KAR 51:017, *Prevention of Significant Deterioration.* Permittee has opted to take a source-wide limitation to avoid applicability of 401 KAR 51:017.

Comments:

Wood processing emission factors from in-house measurements

14A, 62: Bark generated at an average of 1.86 LB/DF or 14,880 LB/HR combined and conveyed to truck for sale to mulch producer; DF = Doyle Feet

1. For Emission units listed the Emission factor (waste generated) was based on actual measurements during the plant operation
   [Input Rate of wood processed DF/hr] * [Emission Factor lb/DF] = Waste Emissions lb/hr

Emission Unit # 010 and 042 Fugitive Operations

Process Description:
010 Haul Roads & Log Yards

042 Wood waste loading to Boilers

Emission Unit	Name & Description	(A) Input Rate DF/HR	(B) Wood Waste generated LB/DF	(A*B) Waste generated LB/HR	Installation date
010	Haul Roads & Log Yard	2000 miles/year	2.257 lb/Miles	0.54	4/30/1967
042	Wood waste Loading to Boiler	4.24 Ton/hr	0.389 lb/ton	1.65	9/1/2022

APPLICABLE REGULATIONS:
401 KAR 63:010, *Fugitive Emissions*.

NON-APPLICABLE REGULATIONS:
401 KAR 51:017, *Prevention of Significant Deterioration.* Permittee has opted to take a source-wide limitation to avoid applicability of 401 KAR 51:017.

Comments:
A. Process Description:Permittee shall not cause, suffer, or allow any material to be handled, processed, transported, or stored; in a building or its appurtenances to be constructed, altered, repaired, or demolished, or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:
   1. Use, where possible, of water or chemicals for control of dust in the demolition of existing building or structures, construction operations, the grading of roads or the clearing of land [401 KAR 63:010, Section 3(1)(a)];
   2. Application and maintenance of asphalt, oil, water or suitable chemicals on roads, materials stockpiles, and other surfaces which can create airborne dusts [401 KAR 63:010, Section 3(1)(b)];
   3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling. Adequate containment methods shall be employed during sandblasting or other similar operations [401 KAR 63:010, Section 3(1)(c)];
   4. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne [401 KAR 63:010, Section 3(1)(c)];
   5. The maintenance of paved roadways in a clean condition [401 KAR 63:010, Section 3(1)(d)];
   6. The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water [401 KAR 63:010, Section 3(1)(f)].

B. Permittee shall not cause, suffer, or allow visible fugitive dust emission beyond the lot line of the property on which the emissions originate, as determined by Reference Method 22 of Appendix A in 40 C.F.R. Part 60, for:
   1. More than five (5) minutes of emission time during any sixty (60) minute observation period; or
   2. More than twenty (20) minutes of emission time during any twenty-four (24) hour period

Emission Unit # 010 and 042 Fugitive Operations
C. If dust fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in a manner and amount as to cause a nuisance or to violate any administrative regulation, the secretary may, based on the cause, type, or amount of a fugitive emission, order that the building or equipment in which processing, handling, and storage are done be tightly closed and ventilated in a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of Compliance Testing
Boiler #1 011	Cyclone	PM	EF determined to comply with voluntary Limit to preclude 401 KAR 51:017	Every 5 years	Method 5	0.428 lb/MMBtu	0.192 lb/MMBtu	16 MMBtu/hr	CMN20080002	12/16/08
Boiler #2 012	Cyclone	PM		Every 5 years	Method 5	0.397 lb/MMBtu	0.243 lb/MMBtu	15.6 MMBtu/hr	CMN20080003	17/12/08
Boiler #3 015	Cyclone	PM		Every 5 years	Method 5	0.359lb/MMBtu	0.226 lb/MMBtu	25.8 tons/hr	CMN20180004	12/17/08
Boiler #1 011		PM	EF determined to comply with voluntary Limit to preclude 401 KAR 51:017	Every 5 years	Method 5	0.43	0.164 Ib/MMBtu	17.1 MMBtu/hr	CMN20130003	9/24/13
Boiler #2 012		PM		Every 5 years	Method 5	0.397	0.184	24.2 MMBtu/hr	CMN20130004	9/25/13
Boiler #3 015		PM		Every 5 years	Method 5	0.359	0.336	32.3 MMBtu/hr	CMN20130005	9/25/13
Boiler #1 011	Cyclone	PM	EF determined to comply with voluntary Limit to preclude 401 KAR 51:017	Every 5 years	Method 5	0.428 lb/MMBtu	0.4277 lb/MMBtu	1 ton/hour	CMN20180001	2/28/18
Boiler #2 012	Cyclone1	PM		Every 5 years	Method 5	0.397 lb/MMBtu	0.209 lb/MMBtu	0.8 ton/hour	CMN20180001	2/28/18
Boiler #3 015	Cyclone	PM		Every 5 years	Method 5	0.359lb/MMBtu	0.246 lb/MMBtu	2.4 tons/hour	CMN20180001	2/28/18

Footnotes:

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
Emission Units 044, 045, 046 and 08 (Cyclone 1, 2, 3 and 4) limited to 240 tpy of PM	To preclude the applicability of **401 KAR 51:017,** Prevention of Significant Deterioration (PSD)	SOURCE WIDE

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 63:020, Potentially hazardous matter or toxic substances.	EU 01, 04, 05 & 10
401 KAR 59:010, New process operations.	14a, 21, 22-25b, 26, 32, 33, 34, 59, 60, 63, 64, 65, 044, 14b, 19, 20, 045, 30, 31, 47, 48, 046, 007, 08 and 62
401 KAR 59:015, New indirect heat exchangers.	011, 012 and 015
401 KAR 60:005 Section 2(2)(d) 40 C.F.R. 60.40c through 60.48c (Subpart Dc) Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.	011, 012 and 015
401 KAR 61:020, Existing process operations.	18 and 23
401 KAR 63:010, Fugitive emissions.	010 and 042
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.	011, 012, and 015

Table C - Summary of Precluded Regulations:

N/A

Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
401 KAR 51:017. *Prevention of Significant Deterioration*.	SOURCE WIDE

Air Toxic Analysis
N/A

Single Source Determination
N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
V-14-007	Renewal	APE20140001	4/17/14	2/25/15	Title V Renewal Added 6J; Added 8 EU's; Removed non-existent EU's	N/A
V-03-043 R1	Revision	APE20060001	4/19/06	6/19/06	Significant Revision -Added Two Cyclones	
V-03-043	Initial	Log 54048	10/7/01	5/21/04	Initial Title V	Precluded 401 KAR 51:017 with voluntary limit on PM
V-08-047	Renewal	APE20080001	1/21/09	8/25/09	Title V Renewal -Removed EU13 -for EU 11, 12, and 15 Added Fuel Moisture Content Op. Limit, Fuel Monitoring Requirements, and Testing Requirements	

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 EMISSIONS LIMITATIONS

Summary of All Affected Facilities Used to Determine 401 KAR 59:015 Emission Limits								
EU	Fuel(s)	Capacity (MMBtu/ hr)	Constructed	Basis for PM Limit	Total Heat Input Capacity for PM Limit (MMBtu/hr)	Basis for SO_2 Limit	Total Heat Input Capacity for SO_2 Limit (MMBtu/hr)	Notes
005	Natural Gas; #1or 2 Fuel Oil	4.0	1989	401 KAR 59:015, Section 4.(1)(c)	6.3+ 4.0 = 10.3 MMBtu/hr	401 KAR 59:015, Section 5.(1)(c)1.b. & Section 5.(1)(c)2.b.	6.3+ 4.0 = 10.3 MMBtu/hr	Removed from facility 2004
009	Natural Gas	6.3	1979	401 KAR 59:015, Section 4.(1)(a)	6.3 MMBtu/hr	401 KAR 59:015, Section 5.(1)(a)1.	6.3 MMBtu/hr	Removed from facility 2004
011	Wood - Fired	12.0	2/28/1991	401 KAR 59:015, Section 4.(1)(c)	6.3+ 4.0+12.0 = 22.3 MMBtu/hr	401 KAR 59:015, Section 5.(1)(c)3.b.	12.0 = 12.0 MMBtu/hr	--
012	Wood - Fired	10.0	5/29/1991	401 KAR 59:015, Section 4.(1)(c)	6.3+ 4.0+12.0 +10.0= 32.3 MMBtu/hr	401 KAR 59:015, Section 5.(1)(c)3.b.	12.0 +10.0= 22.0 MMBtu/hr	--
015	Wood - Fired	28.7	3/31/1996	401 KAR 59:015, Section 4.(1)(c)	6.3+ 4.0+12.0 +10.0+28.7= 61.0 MMBtu/hr	401 KAR 59:015, Section 5.(1)(c)3.b.	12.0+10.0+28.7 = 50.7 MBtu/hr	--
013	Wood - Fired	28.7	Proposed 2003 V-03-043	Unit was subject to 401 KAR 59:015				Never built