Commonwealth of Kentucky Division for Air Quality STATEMENT OF BASIS / SUMMARY

Title V, Construction/ Operating Permit: V-21-006 R2 Carmeuse Lime and Stone – Maysville Plant 9222 Springdale Road Maysville, KY 41506

November 8, 2024 Kristy Reilley, Reviewer SOURCE ID: 21-161-00010 AGENCY INTEREST: 3003 ACTIVITY: APE20240001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and descrip	ption: 32	74, Lime.				
Single Source Det.	🗌 Yes	🖾 No	If Yes, Affiliat	ted Source AI:		
Source-wide Limit	🛛 Yes	🗌 No	If Yes, See See	ction 4, Table A		
28 Source Category	🛛 Yes	🗌 No	If Yes, Catego	ry: Lime Plants		
County: Mason Nonattainment Area	🖂 N/A	$\square PM_{10} \square$	PM _{2.5} CO	\square NO _X \square SO ₂	Ozone	□ Lead
PTE* greater than 10 If yes, for what po \square PM ₁₀ \square PM _{2.5}	0 tpy for ollutant(s ⊠ CO ∑	any criteria)? ☑ NO _X ⊠ S	air pollutant $O_2 \square VOC$	🛛 Yes 🗌 No		
PTE* greater than 25 If yes, for what po $\boxtimes PM_{10} \boxtimes PM_{2.5}$	0 tpy for llutant(s ⊠ CO ∑	any criteria)? ☑ NO _X ⊠ S	air pollutant $O_2 \square VOC$	🛛 Yes 🗌 No		
PTE* greater than 10 If yes, list which p) tpy for a collutant(any single h (s): Hydroch	azardous air po loric Acid	llutant (HAP) 🛛	Yes 🗌 No	0
PTE* greater than 25	tpy for	combined H	AP Yes	🗌 No		
*PTE does not includ	le self-in	nposed emis	sion limitations	s.		

Description of Facility:

The Carmeuse Lime and Stone – Maysville Plant owned by Carmeuse Lime and Stone, Inc. is a limestone mining, processing, storage and lime manufacturing facility located in Mason County, Kentucky.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: V-21-006 R2	Activity: APE20240001
Application Received: 9/10/2024	Application Complete: 11/8/2024
Permit Action: Initial Renewal	⊠Significant Rev. ☐Minor Rev. ☐Administrative
Construction/Modification Requested?	Image: YesNoNSR Applicable?Image: YesImage: No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action \Box Yes \boxtimes No

Description of Action:

The source submitted an application for a Title V Significant Revision of Permit V-21-006 R1. During the revision process the Division made the following changes and determination:

- Addition of Dry Sorbent Injection (DSI) systems (DSI-01 DSI-04) as additional control devices for Rotary Kilns #1 #4 (EP 06 01 EP 06 03, and EP 07 01) to reduce HCl emissions from the kilns which resulted in the addition of the following emission points:
 - EP 30 01 (Transfer Point (Kiln #1 Dry Sorbent Bag to DSI Hopper, DSI-01))
 - EP 30 02 (Transfer Point (Kiln #1 DSI Hopper to DSI Screw Conveyor, DSI-01))
 - EP 30 03 (Transfer Point (Kiln #1 DSI Screw Conveyor to DSI Injection Line, DSI-01))
 - EP 30 04 (Transfer Point (Kiln #2 Dry Sorbent Bag to DSI Hopper, DSI-02))
 - EP 30 05 (Transfer Point (Kiln #2 DSI Hopper to DSI Screw Conveyor, DSI-02))
 - EP 30 06 (Transfer Point (Kiln #2 DSI Screw Conveyor to DSI Injection Line, DSI-02))
 - EP 30 07 (Transfer Point (Kiln #3 Dry Sorbent Bag to DSI Hopper, DSI-03))
 - EP 30 08 (Transfer Point (Kiln #3 DSI Hopper to DSI Screw Conveyor, DSI-03))
 - EP 30 09 (Transfer Point (Kiln #3 DSI Screw Conveyor to DSI Injection Line, DSI-03))
 - EP 30 10 (Transfer Point (Kiln #4 Dry Sorbent Bag to DSI Hopper, DSI-04))
 - EP 30 11 (Transfer Point (Kiln #4 DSI Hopper to DSI Screw Conveyor, DSI-04))
 - EP 30 12 (Transfer Point (Kiln #4 DSI Screw Conveyor to DSI Injection Line, DSI-04))
- The addition of the DSI systems will result in a significant decrease in PTE for HCl and combined HAP emissions.
 - Due to this decrease, potential HAP emissions will fall below major source thresholds for both single and combined HAP emissions. As a result, the Maysville Plant has requested to be reclassified as an area source of HAP emissions.
 - Upon installation and start-up of the DSI systems, the Maysville Plant will no longer be subject to the requirements of 40 CFR 63, Subpart AAAAA.
 - The Rotary Kilns that were subject to 40 CFR 63, Subpart AAAAA will now be subject to 401 KAR 63:020. These include EP 06 01 EP 06 03, and EP 07 01.
 - The processed stone handling operations systems that were subject to 40 CFR 63, Subpart AAAAA will now be subject to 401 KAR 63:010. These include EP 01 08 EP 01 11, EP 01 13, and EP 02 02 EP 02 04.
 - The control efficiencies for each of the DSI systems have been conservatively estimated to be 93.6% which resulted in source-wide HCl emissions of 8.988 tpy.
- Prior to the installation and start-up of the DSI systems, 40 CFR 63, Subpart AAAAA will still be applicable and the source will be required to adhere to the Alternative Operating Scenario in Section H of the revised permit.
- It has been demonstrated that the change in emissions associated with the addition of the DSI systems (EP 30 01 EP 30 12) would not exceed any signification emission rates (SER) as

PSD Criteria Pollutant	VOC	SO ₂	NOx	CO	PM	PM ₁₀	PM2.5
Emissions (tpy)	0	0	0	0	8.83E-04	2.90E-04	8.20E-05
PSD SER (tpy)	40	40	40	100	25	15	10
Further PSD Review	No	No	No	No	No	No	No

defined in 401 KAR 51:001. The results are as follows:

- The source has requested source-wide emission limits to preclude the major source HAP threshold. These limits have been set at 9.90 and 24.5 tpy of single HAP and combined HAP, respectively.
- For higher accuracy, the emission factors for the stockpiles derived from the EPA equations for wind erosions and dust collection systems derived from PM mass emission rates were replaced with the actual output values rather than the rounded values.

- This caused a reduction in the source-wide total particulate (PT) emissions.

V-21-006 R2 Emission Summary						
Pollutant	2023 Actual (tpy)	Previous PTE V-21-006 R1 (tpy)	Change (tpy)	Revised PTE V-21-006 R2 (tpy)		
СО	157.8	1,334	0	1,334		
NO _X	326.2	2,599	0	2,599		
PT	34.68	350.7	-0.1000	350.6		
PM ₁₀	19.47	319.6	0	319.6		
PM _{2.5}	6.968	207.3	0.1000	207.4		
SO_2	45.45	1,209	0	1,209		
VOC	0.001023	87.92	0	87.92		
Lead	0.0000152	0.001753	0	0.001753		
	Greenhouse Gases (GHGs)					
Carbon Dioxide	336,691	1,963,680	0	1,963,680		
Methane	0.0001647	94.37	0	94.37		
Nitrous Oxide	0.0000329	13.76	0	13.76		
CO ₂ Equivalent (CO ₂ e)	336,691	1,970,140	0	1,970,140		
	Hazardous A	Air Pollutants (HAP	Ps)			
Acetaldehyde	-	0.001772	0	0.001772		
Benzene	0.0000032	0.002155	0	0.002155		
Formaldehyde	0.004340	0.03857	0	0.03857		
Hydrochloric Acid	21.70	140.4	-131.4	8.988*		
Naphthalene	-	0.0001959	0	0.000196		
Toluene	0.0000014	0.0009448	0	0.000945		
Xylenes (Total)	0.0000010	0.0006584	0	0.000658		
Combined HAPs:	21.70	140.5	-131.4	9.066*		

* Upon installation and start-up of the DSI-01 – DSI-04 control devices associated with **EP 06 01** – **EP 06 03**, and **EP 07 01**, the source will be subject to source-wide emission limits of 9.90 and 24.5 tpy of single HAP and combined HAP, respectively.

Emission Group 10					
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method	
	< 0.02 gr/acf	401 KAR 51:017	Not Applicable	Testing	
РМ	$E = 2.34 \text{ for } P \le 0.5$ ton/hr $E = 3.59P^{0.62} \text{ for } P$ from 0.5 ton/hr to 30 ton/hr $E = 17.31P^{0.16} \text{ for } P$ > 30 ton/hr	401 KAR 59:010, Section 3(2)	See Comments	Hourly Emission Rate Calculation	
	< 20% Opacity	401 KAR 59:010, Section 3(1)	Not Applicable	Monthly Qualitative Visual Observations	

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Process Description:

Emission Group 10: LM01 – Lime Dust Collection Systems

EP	Name	Design Capacity** (tons/hr)	Construction Date
22 01	Serving Transfers (DC-89-044) [From Kilns #1, #2 and #3 Coolers to Conveyors (L-1 & R-1)]	150	1/1/1976
22 02	Serving Transfers (DC-89-045) [From Kilns #1, #2 and #3 Coolers to Conveyors (L-1 & R-1)]	150	1/1/1991
22 03	Serving Transfers (DC-89-046) [From Kilns #4 Coolers to Conveyors (L-1 & R-1)]*	46	7/1/1997
22 04	Serving Kiln Dust Bin (DC-63-018) (63-009)*	25	
22 05	Serving Transfers (DC-89-041) [From Conveyors (L-1, R-1, L-2 & R-2) in Lime Reclaim Building]	260	1/1/2002
22 06	Serving Transfers (DC-89-042) [From Conveyor (L-2) to Conveyor (L-3)]	260	1/1/2002
22 07	Serving Transfers (DC-89-043) [From Conveyor (L-3) to Conveyor (L-4), Silos #1, #2 and #3]	260	1/1/2008
22 08	Serving Transfers (DC-94-040) [From Conveyor (L-5) to Conveyor (L-6 or L-7)]	1140	1/1/1076
22 09	Serving Transfers (DC-94-041) [From Conveyor (L-6) to Conveyor (L-6A)]	1140	1/1/1970
22 10	Serving Enclosure Hood (DC-94-044) on Conveyor (L-6A)	1140	7/1/2013
22 11	Serving Transfers (DC-94-042) [From Conveyor (L-6A) to Barge Loading]	1140	7/1/2003
22 12	Serving Fairfield Screening Building Conveyors (DC-94-043)	1140	7/1/1995
22 13	Serving Pebble Bin (BV-94-051)	520	7/1/2006
22 14	Serving Transfers (DC-94-046) [From Conveyor (L-10) to Pebble Bin and Conveyor (L-11)]	520	7/1/1995

	Emission Group 10			
22 15	Serving Transfers (DC-94-047) [From Conveyors (L-11 & L-12), Truck and Railcar Loadout]	540	7/1/1995	
22 16	Serving Reject Lime Bin Transfers (DC-89-029) [From Conveyors (R-2) to Conveyor (R-3)]	260	7/1/2006	
22 17	Serving Reject Lime Reclaim Building (DC-62-031)	60	7/1/2005	l
22 18	Serving Reject Lime Receiving Building (DC-119-421)	50	7/1/2013	
22 19	Serving Quality Prep Lab (DC-66-080)	1	7/1/2009	
22 20	DC-01 Serving Milled Lime Screw Conveyors	150		
22 21	DC-02 Serving Transfer from BC L-9 to BC-01	500		l
22 22	DC-03 Serving Transfer from Pebble Bin to BC-02	100	7/31/2023	
22 23	DC-04 Serving Transfer from BC-02 To Milled Lime Truck & Rail Loadspout	100		

* Subject to PM BACT Limit of 0.02 gr/acf

** Design capacity values listed are those for the underlying conveyor systems and/or material transfer and handling systems served by the dust collection listed.

Applicable Regulations:

401 KAR 51:017, Prevention of Significant Deterioration of Air Quality. This regulation is applicable to the construction of a new major stationary source or a project at an existing major stationary source that commences construction after September 22, 1982, and locates in an area designated attainment or unclassifiable under 42 U.S.C. 7407(d)(1)(A)(ii) and (iii).

401 KAR 59:010, New Process Operations. This regulation 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.

40 CFR 64, Compliance Assurance Monitoring (CAM). This regulation is applicable to a pollutantspecific emissions unit at a major source that is required to obtain a part 70 permit that is subject to an emission limitation or standard, uses a control device to achieve compliance with any such emission limitation or standard; and has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 tons per year.

Comments:

- The lime dust collection systems utilize fabric filters for control of PM emissions.
- Emission factors for EP 22 01 EP 22 19 were based on 0.02 gr/acf exit loading (Renewal application under activity APE20210002).
- Emission factors for EP 22 20 EP 22 23 were based on EPA-450/3-88-0008 for PT and AP-42 Chapter 13.2.5 for PM_{10} and $PM_{2.5}$ (Minor Revision application under activity APE20230001).
- For the equation E = rate of emission in lb/hr and P = process weight rate in tons/hour. Hourly Emission Rate = [Monthly processing rate x Emission Factor as determined from AP-42 / (Hours of operation per month)] x (1 – control efficiency).

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Emission Group 9					
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method	
СО	< 128.8 lb/hr	401 KAR 51-017	Stack Test 2016	Performance Testing	
NO_2	< 174.8 lb/hr	401 KAR 51.017	Stack Test 2010	renormance resting	
	< 20% Opacity	401 KAR 59:010 Section 3(1)		Monthly Qualitative Visual Observations	
	< 0.12 lb/tsf of stone feed	40 CFR 63 Subpart AAAAA Table 1, Item 1	Not Applicable	Calculate weighted average of continuous PM emissions	
PM	$E = 2.34 \text{ for } P \le 0.5$ ton/hr $E = 3.59P^{0.62} \text{ for } P$ from 0.5 ton/hr to 30 ton/hr $E = 17.31P^{0.16} \text{ for}$ P > 30 ton/hr	401 KAR 59:010, Section 3(2)	Stack Test 2016	Operating and Properly Maintaining the Control Device	
SO_2	< 25.097 lb/hr	401 KAR 51:017	Stack Test 2016	Performance Testing	

Process Description:

Emission Group 9: KL04 – Rotary Kilns

EP	Name	Capacity (tons/hr)	Construction Date	Control Device
07 01	Rotary Lime Kiln #4 Fuller Kiln – 16' x 210' Primary Fuel: Pulverized Coal, Startup Fuel: Diesel Oil	46	7/8/1997 (DSI addition 2025)	Pulse-Jet Baghouse Amerex Industries, Model: 7 Module Rex Pulse RP-14 304 D6 (16×19) ; Dry Sorbent Injection System (DSI-04)

Applicable Regulation:

401 KAR 51:017, Prevention of Significant Deterioration of Air Quality. This regulation is applicable to the construction of a new major stationary source or a project at an existing major stationary source that commences construction after September 22, 1982, and locates in an area designated attainment or unclassifiable under 42 U.S.C. 7407(d)(1)(A)(ii) and (iii).

401 KAR 59:010, New Process Operations. This regulation 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 Group 9

401 KAR 60:005, Section 2(2)(qq), 40 C.F.R. 60.340 through 60.344 (Subpart HH), Standards of Performance for Lime Manufacturing Plants. This regulation is applicable to new rotary lime kilns used in the manufacture of lime that commences construction or modification after May 3, 1977.

401 KAR 63:002, Section 2(4)(ffff), 40 C.F.R. 63.7080 through 63.7143, Tables 1 to 8 (Subpart AAAAA), National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants. This regulation is applicable to each existing or new lime manufacturing plant (LMP) that is a major source, or that is located at, or is part of, a major source of hazardous air pollutant (HAP) emissions.

40 CFR 64, Compliance Assurance Monitoring (CAM). This regulation is applicable to a pollutantspecific emissions unit at a major source that is required to obtain a part 70 permit that is subject to an emission limitation or standard, uses a control device to achieve compliance with any such emission limitation or standard; and has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 tons per year.

Comments:

For the equation E = rate of emission in lb/hr and P = process weight rate in tons/hour. Hourly Emission Rate = [Monthly processing rate x Emission Factor as determined from AP-42 / (Hours of operation per month)] x (1 – control efficiency).

Upon installation and start-up of the DSI-04 control device, the requirements 40 CFR 63, Subpart AAAAA will no longer apply. Instead, **EP 07 01** will be subject to the requirements of **401 KAR 63:020, Potentially hazardous matter or toxic substances**.

401 KAR 60:005, Section 2(2) (www) 40 C.F.R. 60.730 through 60.737 (Subpart UUU), Standards of Performance for Calciners and Dryers in Mineral Industries is not applicable to rotary kilns because limestone is not one of the named minerals in the definition of mineral processing plant.

Emission Group 8					
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method	
	< 20% Opacity	401 KAR 59:010 Section 3(1)		Weekly Qualitative Visual Observations	
	< 0.12 lb/tsf of stone feed	40 CFR 63 Subpart AAAAA Table 1, Item 1	Not Applicable	Calculate weighted average of continuous PM emissions	
РМ	$E = 2.34 \text{ for } P \le 0.5$ ton/hr $E = 3.59P^{0.62} \text{ for } P$ from 0.5 ton/hr to 30 ton/hr $E = 17.31P^{0.16} \text{ for}$ P > 30 ton/hr	401 KAR 59:010, Section 3(2)	Stack Test 2016	Operating and Properly Maintaining the Control Device	

Process Description:

Emission Group 8: KL01, KL02, KL03 – Rotary Kilns

EP	Name	Capacity (tons/hr)	Construction Date	Control Device
06 01	Rotary Lime Kiln #1 KVS (17' X 203') Primary Fuel: Pulverized Coal. Startup Fuel: Diesel Oil	50		Multi-Cyclone (Flex- Kleen Model 35C-24 Cyclotrell Series 5):
06 02	Rotary Lime Kiln #2 KVS (17' X 203') Primary Fuel: Pulverized Coal, Startup Fuel: Diesel Oil	50	7/1/1976	Reverse-Air Baghouse (American Air Filter Model Amertherm
06 03	Rotary Lime Kiln #3 KVS (17' X 203') Primary Fuel: Pulverized Coal, Startup Fuel: Diesel Oil	50		Collector); Dry Sorbent Injection Systems (DSI-01, DSI-02, and DSI-03)

Applicable Regulations:

401 KAR 59:010, New Process Operations. This regulation 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.

401 KAR 63:002, Section 2(4)(ffff), 40 C.F.R. 63.7080 through 63.7143, Tables 1 to 8 (Subpart AAAAA), National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants. This regulation is applicable to each existing or new lime manufacturing plant (LMP) that is a major source, or that is located at, or is part of, a major source of hazardous air pollutant (HAP) emissions.

40 CFR 64, Compliance Assurance Monitoring (CAM). This regulation is applicable to a pollutantspecific emissions unit at a major source that is required to obtain a part 70 permit that is subject to an emission limitation or standard, uses a control device to achieve compliance with any such emission

Emission Group 8

limitation or standard; and has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 tons per year.

Comments:

For the equation E = rate of emission in lb/hr and P = process weight rate in tons/hour.Hourly Emission Rate = [Monthly processing rate x Emission Factor as determined from AP-42 / (Hours of operation per month)] x (1 – control efficiency).

Upon installation and start-up of the DSI-01 – DSI-03 control devices, the requirements 40 CFR 63, Subpart AAAAA will no longer apply. Instead, **EP 06 01 – EP 06 03** will be subject to the requirements of **401 KAR 63:020, Potentially hazardous matter or toxic substances**.

401 KAR 60:005, Section 2(2) (www) 40 C.F.R. 60.730 through 60.737 (Subpart UUU), Standards of Performance for Calciners and Dryers in Mineral Industries is not applicable to rotary kilns because limestone is not one of the named minerals in the definition of mineral processing plant.

	Emission Group 7					
Pollutar	It Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission F Used and	lactor Basis	Compliance Method	
РМ	< 20% Opacity	40 CFR 60.254(a)	Not Appli	Not Applicable		PA Reference od 9 Testing
Process Description:						
Emissior	n Group 7: CL01 – Coa	I Receiving & Storage				
EP	Na	me	Capacity (tons/hr)	Capacity Constructi (tons/hr) Date		Control Method
05 01	Receiving Hopper & T [To Conve	Fransfer (BC-54-011) evor (C-1)]	500	1/1/1976		Dust Suppression
05 02	Conveyor (C-1) & Trar x 500') [To Conveyor (sfer (BC-54-001) (30" C-1.5) or #2 Coal Bin]	500			
05 03	Conveyor (C-2) & Tran [To Conveyor (C-2)]	sfer (BC-54-002) (30") 3) or #2 Coal Bin]	375			
05 05	Conveyor (C-3) & Tran [To Conveyor (C-4), # Bi	sfer (BC-54-006) (30") 4 Coal Bin or #1 Coal n]	375			
05 08	Conveyor (C-4) & Tran [To #3 C	sfer (BC-54-006) (30") Coal Bin]	375			
19 01	Conveyor (Transverse (BC-54-007) (30")	e) (C-1.5) & Transfer) [To #1 Coal Bin]	500			
19 04	Coal Loading Transfer [To Receiving H	Via Front End Loaders (opper (54-013)]	500	1/1/	2004	Dust Suppression
19 05	Receiving Hopper (Loa 013) [To Cor	ading) & Transfer (54- vevor (C-2)]	500	1/1/	1976	Dust Suppression

Emission Group 7					
EP	Name	Capacity (Acre-Years/hr)	Construction Date	Control Method	
19 06	Coal Stockpile	4.63E-05	1/1/1976	Dust Suppression	

Applicable Regulation:

401 KAR 60:005 Section 2(2)(gg), 40 C.F.R. 60.250 through 60.258 (Subpart Y), Standards of Performance for Coal Preparation and Processing Plants. This regulation is applicable to affected facilities in coal preparation and processing plants that process more than 181 megagrams (Mg) (200 tons) of coal per day constructed after October 27, 1974.

Comments:

The affected facilities constructed after October 27, 1974 but before April 28, 2008 that operate in association with any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal shall not exhibit fugitive emissions greater than or equal to 20% opacity.

Emission Group 3					
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method	
РМ	10% Opacity for Affected Facilities	40 CFR 60.672(b)	AP-42 Table 11.19.2-2	Initial U.S. EPA Reference Method 9 Testing; Daily Qualitative Visual Observations	

Process Description:

Emission Group 3: LS03 – Limestone Screening and Crushing

EP	Name	Capacity (tons/hr)	Construction Date	Control Method
17 01	Conveyor (LS-5C) & Transfer (BC-51-006) (36" x 530') [To Conveyor (LS-5T)]	825		
18 01	Transfer (42" x 22') [From Screening and Crushing Building Operations to Conveyor (LS-5C)]	1000	1/1/2004	Dust
20 04	Loader Hopper Transfer (51-012) [To Conveyor (LS-4A)]	625		Suppression
21 01	Conveyor (LS-4A) & Transfer (BC-51-011) [To Conveyor (LS-4)]	625		

Applicable Regulation:

Emission Group 3

401 KAR 60:005, Section 2(2)(qqq) 40 C.F.R. 60.670 through 60.676, Tables 1 through 3 (Subpart OOO), Standards of Performance for Nonmetallic Mineral Processing Plants. This regulation is applicable to each of the affected facilities listed above that is a crusher or operate in association with a crusher and that commenced construction, modification, or reconstruction after August 31, 1983.

Comments:

The affected facilities constructed after August 31, 1983 but before April 22, 2008 that operate in association with a crusher shall not exhibit fugitive emissions greater than 10% opacity.

Emission Groups 15, 17					
Process Description:					
EP	Name	Capacity (Gal/hr)	Construction Date	Control Device	
24 01	Kiln Engine 1 Pony Motor New Holland, Model F4HFE413D*A008 (119 hp)	6.08	- 1/1/2015		
24 02	Kiln Engine 2 Pony Motor New Holland, Model F4HFE413D*A008 (119 hp)	6.08			
24 03	Kiln Engine 3 Pony Motor New Holland, Model F4HFE413D*A008 (119 hp)	6.08		None	
24 04	Kiln Engine 4 Pony Motor New Holland, Model F4HFE413D*A008 (119 hp)	6.08			

Emission Group 17: EN03 – Stationary Emergency-Use Engines (NSPS Applicable)

EP	Name	Capacity (Gal/hr)	Construction Date	Control Device
24 07	Mine Escape Shaft Emergency Generator Caterpillar Model C9 Acert-300 kW (Ultra Low Sulfur Diesel Fired) (444 bhp)	22.686	2/1/2017	None

Applicable Regulations:

401 KAR 60:005, Section 2(2)(ddd), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 4 (Subpart IIII), Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. This regulation is applicable to stationary compression ignition (CI) internal combustion engines (ICE) for which construction is commenced after July 11, 2005 and which are manufactured after April 1, 2006.

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

Emission Groups 15, 17

Stationary Reciprocating Internal Combustion Engines. This regulation is applicable, however, pursuant to 40 CFR 63.6590(c) stationary RICE located at an area source must meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII. No further requirements apply to these engines under 40 CFR 63, Subpart ZZZZ.

Comments:

None

Emission Group 16

Process Description:

Emission Group 16: EN02 – Stationary Emergency-Use Engines

EP	Name	Capacity (Gal/hr)	Construction Date	Control Device
24 06	Mine Emergency Hoist Engine Ford 300G Model 4027610 (170 hp) (Gasoline Fired)	8.686	1/1/1976	None

Applicable Regulation:

401 KAR 63:002 Section 2(2)(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. This regulation is applicable because this engine is a stationary RICE at an major source of HAP emissions and is not being tested at a stationary RICE test cell/stand. [40 CFR 63.6585]

Comments:

401 KAR 60:005, Section 2(2)(ddd), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 4 (Subpart IIII), Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. This regulation does not apply to **EP 24 06** as this engine was manufactured before April 1, 2006.

Emission Group 4					
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method	
РМ	Opacity $\leq 10\%$	40 CFR 63.7090(a)	Not Applicable	Performance Testing and Monitoring	

Process Description:

Emission Group 4						
Emissio	Emission Group 4: LS04 – Kiln Limestone Feed System					
EP	Name	Capacity (tons/hr)	Construction Date			
01 08	Conveyor (LS-6) & Transfer (BC-52-006) (30" x 550') [To Conveyor (LS-7 or LS-6A)]	825	1/1/1976			
01 09	Conveyor (LS-6A) & Transfer (BC-52-009) (30" x 210') [To Re- Screen (52-020)]	825				
01 10	Screen (8" x 20' Single Deck) Re-Screen 52-020 & Transfer [To Conveyor (LS-7 or LSF-1)]	850	1/1/1076			
01 11	Conveyor (LS-7) & Transfer (BC-52-007) (30" x 725') [To Conveyor (LS-9 or LS-8) or #2 Preheater (82-002)]	825	1/1/19/0			
01 13	Conveyor (LS-8) & Transfer (BC-52-007) (36" x 140') [To #1 Preheater (81-001) or #3 Preheater (83-003)]	825				
02 02	Conveyor (LS-9) & Transfer (BC-52-010) (30" x 200') [To Kiln 4]	825				
02 03	Kiln 4 Surge Bin Transfer [To Conveyor (LS-10)]	825	1/1/1997			
02 04	Conveyor (LS-10) & Transfer (BC-52-011) (30" x 100') [To #4 Preheater (84-004)]	660				

Applicable Regulation:

401 KAR 63:002, Section 2(4)(ffff), 40 C.F.R. 63.7080 through 63.7143, Tables 1 through 8 (Subpart AAAAA), National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants. This regulation is applicable to each existing or new lime manufacturing plant (LMP) that is a major source, or that is located at, or is part of, a major source of hazardous air pollutant (HAP) emissions.

Comments:

Upon installation and start-up of the DSI-01 – DSI-04 control devices associated with **EP 06 01 – EP 06 03**, and **EP 07 01**, the requirements 40 CFR 63, Subpart AAAAA will no longer apply. Instead **EP 01 08 – EP 01 11, EP 01 13, and EP 02 02 – EP 02 04** will be subject to the requirements of 401 KAR 63:010, Fugitive emissions.

Once **EP 01 08 – EP 01 11, EP 01 13**, and **EP 02 02 – EP 02 04** are subject to the requirements of **401 KAR 63:010**, if fugitive dust emissions beyond the lot line of the property are observed, the permittee shall conduct U.S. EPA Reference Method 22 (visual determination of fugitive emissions) observations per Appendix A of 40 C.F.R. Part 60. In lieu of conducting U.S. EPA Reference Method 22, the permittee shall immediately perform a corrective action which results in no visible fugitive dust emissions beyond the lot line of the property.

Emission Groups 1 – 3, 5, 6, 11 – 14, 18							
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission H Used and	Emission Factor Used and Basis		oliance Method	
PM	No Visible Emissions Beyond Property Line	401 KAR 63:010	See Comn	nents	Se	e Comments	
Process De	Process Description:						
Emission (Group 1: LS01 – Mine	e to Stockpile Transfer	S				
EP		Name		Capa (tons	acity s/hr)	Construction Date	
01 01	Conveyor (LS-2) (BC [To ROM	C-14-002) (42" x 3025') [Limestone Stockpile]	& Transfer	10	50	1/1/1005	
02 01	Conveyor (LS-1)	(BC-14-001) (42" x 302 onveyor (LS-2)]	25') [To	10	50	1/1/1995	
Emission (Group 2: LS02 – Lim	estone Stockpiles		1			
EP	Name		Capacity (Acre-Years /hr)		Construction Date		
01 02	Stockpile (8 x 0) (Limestone ROM)	1.56	E-04		
01 07	Stockpile	(2 1/2 x 1/2) (Kiln Feed)	1	4.05	E-04		
01 17	Stockpile (Limestone Rescreen) LS02 - Limestone Stockpiles		1.4I	E-04			
01 20	Stockpile (1/2 x 0) (ROM Fines)		5.04	E-04	1/1/1976		
01 24	Stockpile	(Oversized Limestone)		2.63	E-05		
01 29	Stockpile (8's)	LS02 - Limestone Stock	piles	4.3H	E-04		
01 33	Stoc	kpile (Sinter Area)	-	3.87	E-04		
01 42	S	Stockpile (57's)		5.71	E-04	4/3/2020	
17 03	Stockpile (Limeston	e Fines Overflow #1) (A ROM Pile)	djacent to	6.74	E-05	1/1/2004	
17 05	Stockpile (Limestor (Adiad	ne Fines Overflow #2) (2 cent to Admin Bldg)	1/2 x 1/8)	4.02	E-04	1/1/2004	
17 08	Stockpile (Limeston	e Fines Overflow #3) (A Gate Entrance)	djacent to	2.38	E-04	1/1/2004	
Emission (Emission Group 3: LS03 – Limestone Screening and Crushing						
EP	*	Name	0	Capa (tons	acity s/hr)	Construction Date	
01 03	Conveyor (LS-3) & Tr Screens	ansfer (BC-51-003) (48' s (51-021 & 51-022)]	' x 555') [To	21	00		
01 04	Screening and Crust Double Deck) &	hing Building Operation	s (8' x 20' (LS-F)1	11	20	1/1/1976	
01 05	Secondary Crusher (4	1/4 Standard Cone) & T onveyor (LS-4)]	Transfer [To	35	50		

	Emission Groups 1 – 3, 5, 6, 11 – 14, 18					
01 06	Conveyor (LS-4) & Transfer (BC-51-004) (36" x 265') [To Conveyor (LS-3)]	1120	1/1/1976			
17 07	Conveyor (LS-5T) & Transfer (TC-51-005) [To Kiln Feed Stockpile]	825	1/1/2004			
20 03	Loadout (Feed Material) & Transfer Via Front End Loader [To Loader Hopper (51-012)]	625	1/1/2008			

Emission Group 5: LS05 – Limestone Loadout Operations

EP	Name	Capacity (tons/hr)	Construction Date
01 18	Truck Loadout (Rescreen) Via Front End Loader [From Limestone Re-Screen Stockpile]	100	1/1/1995
01 43	Limestone Loadout Via Front-End Loaders [To Trucks from 57's Stockpile]	550	4/3/2020
01 45	Limestone Transfer Via Front End Loader [To Receiving Hopper #1a and Conveyor (F-1a)]	625	
01 46	Limestone Transfer Via Front End Loader [To Receiving Hopper #2a and Conveyor (F-1)]	625	2/4/2021
01 47	Conveyor and Transfer Point (F-1a) [To Conveyor (F-1)]	625	
03 05	Receiving Hopper #1 (Reclaim) Limestone Transfer Via Front End Loader [To Hopper #1 (51-301) and Conveyor (F-1)]	625	
03 06	Receiving Hopper #2 (Reclaim) Limestone Transfer Via Front End Loader [To Hopper #2 (51-302) and Conveyor (F-1)]	625	
03 07	Conveyor (F-1) & Transfer (BC-51-101) (30" x 90') [To Conveyor (F-2)]	625	1/1/1976
03 08	Receiving Hopper #3 (Reclaim) Limestone Transfer Via Front End Loader [To Hopper #3 (51-303) and Conveyor (F-2)]	625	
03 09	Conveyor (F-2) & Transfer (BC-51-102) (30" x 675') [To Conveyor (F-3)]	625	
03 10	Conveyor (F-3) & Transfer (BC-51-103) (30" x 720') [To Barge Loadout]	625	1/1/1976

Emission Group 6: LS06 – Sinter Operation

EP	Name	Capacity (tons/hr)	Construction Date
01 16	Conveyor (LSF-1) & Transfer (BC-52-004) (24" x 208')	100	
	Limestone Truck Loadout (Oversized) Via Front End	• • • •	
01 25	Loaders [From Oversized Stockpile to Trucks]	200	1/1/1076
01 27	Conveyor (L) & Transfer (BC-51-202) (24" x 125') [To 8s Stacker (51-203)]	250	1/1/1970
01 28	Conveyor (H-2) (8's Stacker) & Transfer (51-203) (24" x 200") [To 8s Stockpile]	250	

01 30	Limestone Truck Loadout (8's) Via Front End Loaders	250	
01.31	Conveyor (F) & Transfer (BC-51-206) (24" x 100') [To	250	
01.01	Sinter Stacker (51-207)]	200	
01 32	Conveyor (H-1) (Sinter Stacker) & Transfer (51-207) (24" x 200') [To Sinter Stockpile or Sand Stockpile]	250	1/1/1976
01 34	Limestone Truck Loadout (Sinter) Via Front End Loaders	250	
	Transfer Via Front End Loader [To ROM Fines		
01 37	Hopper(51-300)]	250	
	Belt Feeder (F-8) & Transfer (BC-51-211) [To Conveyor		
01 38	(F-7)] LS06 - Sinter Operation	250	1/1/2012
01.00	Conveyor (F-7) & Transfer (BC-51-210) [To Feed	250	1/1/2013
01 39	Conveyor (C-003)]	250	
Emission	Group 11: LM02 – Lime System Buildings	a •	
EP	Name	Capacity (tang/hr)	Construction
22.01	Burner Building (Kiln Discharge)	(IOHS/HF)	Date
2301	Deficient Lime Decembra Duilding	190 50	1/1/19/0
23.02	Reject Line Receiving Building	50	7/1/2013
2303	Exircial Lime Screening Duilding	1140	1/1/1076
23 04	Faitheld Line Screening Building	1140	1/1/19/0
			•
Emission	Group 12: LM03 – Reject Lime Stockpiles		
Emission	Group 12: LM03 – Reject Lime Stockpiles	Capacity	C
Emission EP	Group 12: LM03 – Reject Lime Stockpiles Name	Capacity (Acre-Years	Construction
Emission EP	Group 12: LM03 – Reject Lime Stockpiles Name	Capacity (Acre-Years /hr)	Construction Date
Emission EP 25 01	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin)	Capacity (Acre-Years /hr) 1.16E-06	Construction Date
Emission EP 25 01 25 02	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos)	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06	Construction Date
Emission EP 25 01 25 02 25 03	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin)	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06	Construction Date 1/1/1976
Emission EP 25 01 25 02 25 03 25 04	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin)	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06	Construction Date 1/1/1976
Emission EP 25 01 25 02 25 03 25 04	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin)	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06	Construction Date 1/1/1976
Emission EP 25 01 25 02 25 03 25 04 Emission	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin) Group 13: LM04 – Lime Loadout	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06	Construction Date 1/1/1976
Emission EP 25 01 25 02 25 03 25 04 Emission EP	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin) Group 13: LM04 – Lime Loadout Name	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06 (1.16E-06)	Construction Date 1/1/1976 Construction Date
Emission EP 25 01 25 02 25 03 25 04 Emission EP	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin) Group 13: LM04 – Lime Loadout Name Self-Contained Compact Filter or Kiln Dust Bin Loading	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06 (tons/hr)	Construction Date 1/1/1976 Construction Date
Emission EP 25 01 25 02 25 03 25 04 Emission EP 08 02	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile#2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin) Group 13: LM04 – Lime Loadout Name Self-Contained Compact Filter or Kiln Dust Bin Loading Hopper and Truck Loadout (BF-63-020)	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06 (tons/hr) 25	Construction Date 1/1/1976 Construction Date 1/1/2008
Emission EP 25 01 25 02 25 03 25 04 Emission EP 08 02 08 05	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile#2 (Near Lime Silos) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin) Group 13: LM04 – Lime Loadout Name Self-Contained Compact Filter or Kiln Dust Bin Loading Hopper and Truck Loadout (BF-63-020) Truck Loadout Lime Kiln Dust Bin	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06 2.5	Construction Date 1/1/1976 Construction Date 1/1/2008 1/1/1976
Emission EP 25 01 25 02 25 03 25 04 Emission EP 08 02 08 05 08 06	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin) Group 13: LM04 – Lime Loadout Name Self-Contained Compact Filter or Kiln Dust Bin Loading Hopper and Truck Loadout (BF-63-020) Truck Loadout Lime Kiln Dust Bin Transloading Operation Loading Spout (Portable)	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06 (tons/hr) 25 25 300	Construction Date 1/1/1976 Construction Date 1/1/2008 1/1/1976 11/7/2022
Emission EP 25 01 25 02 25 03 25 04 Emission EP 08 02 08 05 08 06 14 07	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin) Group 13: LM04 – Lime Loadout Name Self-Contained Compact Filter or Kiln Dust Bin Loading Hopper and Truck Loadout (BF-63-020) Truck Loadout Lime Kiln Dust Bin Transloading Operation Loading Spout (Portable) Barge Loadout (L-6A)	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06 2.5 25 25 300 1140	Construction Date 1/1/1976 Construction Date 1/1/2008 1/1/1976 11/7/2022
Emission EP 25 01 25 02 25 03 25 04 Emission EP 08 02 08 05 08 06 14 07 14 16	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin) Group 13: LM04 – Lime Loadout Name Self-Contained Compact Filter or Kiln Dust Bin Loading Hopper and Truck Loadout (BF-63-020) Truck Loadout Lime Kiln Dust Bin Transloading Operation Loading Spout (Portable) Barge Loadout (L-6A) Lime Truck Loadout Station	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06 1.16E-06 25 25 25 300 1140 260	Construction Date 1/1/1976 Construction Date 1/1/2008 1/1/1976 11/7/2022 1/1/1976
Emission EP 25 01 25 02 25 03 25 04 Emission EP 08 02 08 05 08 06 14 07 14 16 14 17	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin) Group 13: LM04 – Lime Loadout Name Self-Contained Compact Filter or Kiln Dust Bin Loading Hopper and Truck Loadout (BF-63-020) Truck Loadout Lime Kiln Dust Bin Transloading Operation Loading Spout (Portable) Barge Loadout (L-6A) Lime Truck Loadout Station	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06 1.16E-06 25 25 25 300 1140 260 260	Construction Date 1/1/1976 Construction Date 1/1/2008 1/1/1976 1/1/1976 1/1/1976
Emission EP 25 01 25 02 25 03 25 04 Emission EP 08 02 08 05 08 06 14 07 14 16 14 17 14 18	Group 12: LM03 – Reject Lime Stockpiles Name Reject Lime Stockpile#1 (Near LKD Bin) Reject Lime Stockpile #2 (Near Lime Silos) Reject Lime Stockpile #3 (Near Pebble Bin) Reject Lime Stockpile #4 (Near Reject Lime Bin) Group 13: LM04 – Lime Loadout Name Self-Contained Compact Filter or Kiln Dust Bin Loading Hopper and Truck Loadout (BF-63-020) Truck Loadout Lime Kiln Dust Bin Transloading Operation Loading Spout (Portable) Barge Loadout (L-6A) Lime Truck Loadout Station Lime Railcar Loadout Station Milled Lime Truck & Railcar Loadout	Capacity (Acre-Years /hr) 1.16E-06 1.16E-06 1.16E-06 1.16E-06 1.16E-06 25 25 25 300 1140 260 260 260 100	Construction Date 1/1/1976 1/1/1976 Construction Date 1/1/2008 1/1/1976 11/7/2022 1/1/1976 7/31/2023

Emission Groups 1 – 3, 5, 6, 11 – 14, 18

Emission Groups 1 – 3, 5, 6, 11 – 14, 18							
Emission	Group 14: RD01 – Road and Landfills Operations						
EP	Name	Capacity (tons/hr)	Construction Date				
15 01	Haul Road & Yard Area (Paved - 1.3 miles)	0.09	1/1/1076				
15 02	Haul Road & Yard Area (Unpaved - 0.5 miles)	0.000833	1/1/1970				
16 01	Landfill Operations	175	1/1/1995				
Emission	Group 18: LS07 – 57's Operation						
EP	Name	Capacity (tons/hr)	Construction Date				
01 19	Conveyor (LSF) & Transfer (BC-51-001) (24" x 375') [To Sinter Area Surge Pile]	700	1/1/1995				
01 21	Conveyor (F-6) & Transfer (BC-51-200) (24" x 150') [To Conveyor (C-003)]	550					
01 23	Screen (8" x 16' Triple Deck) Wash Plant (S-001) (51-221) & Transfer [To Overstock Stockpile, 57s Conveyor, Conveyor (L) or Screen (51-225)]	550	1/1/1976				
01 40	Conveyor & Transfer (57's Belt) [To 57's Stacker]	550					
01 41	Stacker & Transfer (57's) [To 57's Stockpile]	550	4/3/2020				
01 44	Screen (Double Deck) (51-225) & Transfer [To Conveyor (F) or Mine Disposal Area]	550	4/5/2020				
18 02	Feed Conveyor (C-003) & Transfer (BC-51-201) [To Screen (S-001)]	550	1/1/2004				

Applicable Regulation:

401 KAR 63:010, **Fugitive emissions**. This regulation is applicable to each affected facility which emits or may emit fugitive emissions provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.

Comments:

- Emission factors for Emission Groups 1, 3, 5, 6, 18 were based on AP-42 Table 11.19.2-2.
- Emission factors for Emission Group 2 were based on EPA-450/3-88-0008 for PT and AP-42 Chapter 13.2.5 for PM10 and PM2.5 (Renewal application under activity APE20210002) and AP-42 Table 11.19.2-2 for EP 01 42.
- Emission factors for Emission Group 11 were based on AP-42 Chapter 11.17-4.
- Emission factors for Emission Group 12 were based on EPA-450/3-88-0008 for PT and AP-42 Chapter 13.2.5 for PM10 and PM2.5 (Renewal application under activity APE20210002).
- Emission factors for Emission Group 13 were based on AP-42 Chapter 11.17-4 and 0.02 gr/acf exit loading (Renewal application under activity APE20210002) for EP 08 02 and (502(b)(10) Change application under activity APE20220003) for EP 08 06.
- Emission factors for Emission Group 14 were based on AP-42 Chapter 13.2.1 and AP-42 Table 11.19.2-2 for EP 16 01.

Emission Groups 1 – 3, 5, 6, 11 – 14, 18

• If fugitive dust emissions beyond the lot line of the property are observed, the permittee shall conduct U.S. EPA Reference Method 22 (visual determination of fugitive emissions) observations per Appendix A of 40 C.F.R. Part 60. In lieu of conducting U.S. EPA Reference Method 22, the permittee shall immediately perform a corrective action which results in no visible fugitive dust emissions beyond the lot line of the property.

Emission Group 19							
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method			
РМ	E = 2.34 for P≤ 0.5 ton/hr E = $3.59P^{0.62}$ for P from 0.5 ton/hr to 30 ton/hr E = $17.31P^{0.16}$ for P > 30 ton/hr	401 KAR 59:010, Section 3(2)	See Comments	Operating and Properly Maintaining the Control Device			
	< 20% Opacity	401 KAR 59:010, Section 3(1)	N/A	Monthly Qualitative Visual Observations			

Process Description:

Emission Group 19: Lime Transloading Operation

EP	Name	Capacity	Construction Date	Control Method
08 07	Transloading Operation Dust Collection System (Portable)	300 tons/hr	11/7/2022	Dust Collection System
08 08	Diesel Engine 50 HP*	2.56 gal/hr	11/7/2022	None

*Power supply to transloading operation EP 08 06 and EP 08 07

Applicable Regulations:

401 KAR 59:010, New process operations. This regulation 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. This regulation 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 provisions of an administrative regulation of the Division for Air Quality. (Applies to **EP 08 08**)

Comments:

For the equation E = rate of emission in lb/hr and P = process weight rate in tons/hour. Hourly Emission Rate = [Monthly processing rate x Emission Factor as determined from AP-42 /

Emission Group 19

(Hours of operation per month)] x (1 - control efficiency).

There are no applicable requirements to the internal combustion engine, other than the general applicable requirements if the engine is defined as a *nonroad engine*. Pursuant to 40 CFR 1068.30, this engine is considered nonroad because by itself or in or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another, and the engine does not remain at a location for more than 12 consecutive months. A location is any single site at a building, structure, facility, or installation. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.

Emission factors were based on 0.02 gr/acf exit loading (502(b)(10) Change application under activity APE20220003) for **EP 08 07** and AP-42 Chapter 3.3-1,2, 40 CFR 98, Subpart C for **EP 08 08**.

Emission Group 20								
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method				
РМ	$E = 2.34 \text{ for } P \le 0.5$ ton/hr $E = 3.59P^{0.62} \text{ for } P$ from 0.5 ton/hr to 30 ton/hr $E = 17.31P^{0.16} \text{ for } P$ > 30 ton/hr	401 KAR 59:010, Section 3(2)	AP-42 Table 11.19.2-2	Hourly Emission Rate Calculation				
	< 20% Opacity	401 KAR 59:010, Section 3(1)	Not Applicable	Monthly Qualitative Visual Observations				

Process Description:

Emission Group 20: DS01 – Dry Sorbent Injection (DSI) System

EP	Name	Capacity (tons/hr)	Construction Date	Control Method	
30 01	Transfer Point (Kiln #1 Dry Sorbent Bag to DSI Hopper)	0.12	Date	Methou	
30 02	Transfer Point (Kiln #1 DSI Hopper to DSI Screw Conveyor)	0.12			
30 03	Transfer Point (Kiln #1 DSI Screw Conveyor to DSI Injection Line)	0.12			
30 04	Transfer Point (Kiln #2 Dry Sorbent Bag to DSI Hopper)	0.12	Proposed 2/7/2025	Integral Vent Filter	
30 05	Transfer Point (Kiln #2 DSI Hopper to DSI Screw Conveyor)	0.12			
30 06	Transfer Point (Kiln #2 DSI Screw Conveyor to DSI Injection Line)	0.12			
30 07	Transfer Point (Kiln #3 Dry Sorbent Bag to DSI Hopper)	0.12			

Emission Group 20								
30.08	Transfer Point (Kiln #3 DSI Hopper to DSI Screw	0.12						
30.08	Conveyor)							
20.00	Transfer Point (Kiln #3 DSI Screw Conveyor to	0.12						
30 09	DSI Injection Line)							
20.10	Transfer Point (Kiln #4 Dry Sorbent Bag to DSI	0.12	Proposed	Integral				
30 10	Hopper)		2/7/2025	Vent Filter				
20.11	Transfer Point (Kiln #4 DSI Hopper to DSI Screw	0.12						
30 11	Conveyor)							
30 12	Transfer Point (Kiln #4 DSI Screw Conveyor to	0.12						
	DSI Injection Line)							

Applicable Regulation:

401 KAR 59:010, New process operations. This regulation 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:

For the equation E = rate of emission in lb/hr and P = process weight rate in tons/hour.Hourly Emission Rate = [Monthly processing rate x Emission Factor as determined from AP-42 / (Hours of operation per month)] x (1 - control efficiency)

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

EP	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
06 01 06 02 06 03 07 01	DSI	HCl	401 KAR 63:020	Initial	Method 320	< 9 tpy	-	-	TBD	TBD
EG 7	Dust Suppression		40 CFR 63 Subpart Y			20%	_*	-		
20 04, 21 01	Fabric Filter/ Baghouse	Opacity	40 CFR 60 Subpart OOO	Initial	Method 9	10%	_*	-	TBD	TBD
22.04	N	PM	401 KAR 51:017		Method 5	42.09 lb/hr	0.09 lb/hr	-		2/20/2017
22 04	None	Opacity	401 KAR 59:010		Method 9	20%	0%	-	CMIN20170001	3/28/2017
06.02		PM			Method 5D	0.12 lbs/tsf	0.023 lbs/tsf	-	CMN120220001	2/21/2022
06.02		Opacity			Method 9	20%	0%	-	CMIN20220001	3/31/2022
06.03		PM			Method 5D	0.12 lbs/tsf	0.05 lbs/tsf	-	CMN20220001	5/3/2022
00 03	Cyclone /	Opacity	40 CFR 63	Initial and	Method 9	20%	0%	-	CIVII\20220001	5/ 5/ 2022
06.01	Centrifugal	PM	Subpart	Every 5	Method 5D	35.64 lb/hr	4.94 lb/hr	-		0/00/0016
U6 01 Collector	Conector	Opacity	ААААА	1 cars	Method 9	20%	0%	-	CMN20160003	9/28/2016 - 9/29/2016
06 03		PM			Method 5D	35.64 lb/hr	5.98 lb/hr	-		
06 03		Opacity			Method 9	20%	0%	-	CMN20160003	9/28/2016 – 9/29/2016

Statement of Basis/ Summary Permit: V-21-006 R2

EP	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
		CO			Method 10	128.8 lb/hr	71.91 lb/hr	-		
07.01	Pulse-Jet	NO _X			Method 7E	174.8 lb/hr	117.91 lb/hr	-	CMN20160002	1/12/2016 -
07.01	Baghouse	PM		-	Method 5	0.12 lb/ton	0.06 lb/ton	-	CMN20160002	1/13/2016
		SO_2			Method 6	Method 6C	25.1 lb/hr	19.94 lb/hr	-	
	Cyclone /	PM			Method 5D	0.12 lbs/tsf	0.06 lb/ton	-		
06 02	Centrifugal Collector	Opacity				15%	0%	-	CMN20160001	1/14/2016
07 01	Pulse-Jet Baghouse	Opacity	40 CFR 63 Subpart	Initial and Every 5	15%	0%	-			
06 01	Cvclone /		AAAAA	Years		35.24 lb/hr	1.044 lb/hr	-	CMN20110004	11/1/2011
06 03	Centrifugal	PM			Method 5D	35.28 lb/hr	1.441 lb/hr	-	CMN20110003	11/2/2011
06 02	Collector					35.78 lb/hr	7.26 lb/hr	-		9/22/2010 -
07 01		СО			Method 10	128.8 lb/hr	94.9 lb/hr	-	CMN20100002	9/23/2010
	Pulse-Jet	NOx		Method 7E Method 5	Method 7E	174.8 lb/hr	93.15 lb/hr	-		
07 01	Baghouse	PM			0.12 lb/ton	0.037 lb/ton	-	CMN20100002	9/22/2010 - 0/23/2010	
		SO ₂			Method 6C	25.1 lb/hr	17.97 lb/hr	-		9/23/2010

Footnotes:

* No record of initial testing performance

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Groups
9.90 tpy of individual HAP emissions	To preclude major source status for HAP	Source-wide
24.5 tpy of combined HAP emissions	To preclude major source status for HAP	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Groups
401 KAR 51:017, Prevention of significant deterioration of air quality.	9, 10
401 KAR 59:010, New process operations.	8, 9, 10, 19, 20
401 KAR 60:005 Section 2(2)(gg), 40 C.F.R. 60.250 through 60.258 (Subpart Y), Standards of Performance for Coal Preparation and Processing Plants.	7
401 KAR 60:005, Section 2(2)(qq), 40 C.F.R. 60.340 through 60.344 (Subpart HH), Standards of Performance for Lime Manufacturing Plants.	9
401 KAR 60:005, Section 2(2)(qqq) 40 C.F.R. 60.670 through 60.676, Tables 1 through 3 (Subpart OOO), Standards of Performance for Nonmetallic Mineral Processing Plants.	3
401 KAR 60:005, Section 2(2)(ddd), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 4 (Subpart IIII), Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.	15, 17
401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a to 8, and Appendix A (Subpart ZZZZ), National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.	15 – 17
401 KAR 63:002, Section 2(4)(ffff), 40 C.F.R. 63.7080 through 63.7143, Tables 1 through 8 (Subpart AAAAA), National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants.*	4, 8, 9
401 KAR 63:010, Fugitive emissions.	1-3, 5, 6, 11 - 14, 18
401 KAR 63:020, Potentially hazardous matter or toxic substances	4, 8, 9, 19
40 CFR 64, Compliance Assurance Monitoring (CAM).	8, 9, 10

* Upon installation and start-up of the DSI-01 – DSI-04 control devices associated with **EP 06 01** – **EP 06 03**, and **EP 07 01**, the requirements 40 CFR 63, Subpart AAAAA will no longer apply.

Table C - Summary of Precluded Regulations:

N/A

Table D - Summary of Non Applicable Regulations:

N/A

Air Toxic Analysis:

The Division for Air Quality (Division) has performed modeling using SCREEN View on December 2, 2024, of potentially hazardous matter or toxic substances (Hydrochloric Acid, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Formaldehyde, Lead, Manganese, Mercury Vapor, Nickel, and Selenium) 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.

Permit	Permit Type	Activity#	Complete Date	Issuance Date	Summary of Action
V-16-014	Renewal	APE20130002	6/21/2015	8/15/2016	Renewal
V-16-014 R1	Minor Revision	APE20160002	12/19/2016	4/5/2017	Replacement for Emergency Engine
V-16-014 R2	Minor Revision	APE20200001	5/13/2020	11/22/2020	Upgrade of Equipment to Accommodate New 57' Mesh Limestone Product
V-21-006	Renewal	APE20210002	6/29/2021	2/22/2023	Renewal of Permit V-16-014 R2
V-21-006 R1	Minor Revision	APE20230001	8/28/2023	8/2/2024	Addition of EP 22 20 – EP 22 23 and EP 14 18

SECTION 5 - PERMITTING HISTORY

SECTION 6 – PERMIT APPLICATION HISTORY:

Permit Number: V-21-006 R1 Activity: APE20230001

Application Received: 7/7/2023 Application Complete: 8/28/2023

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

Construction/Modification Requested? \square Yes \square No NSR Applicable? \square Yes \square No

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

Description of Action: 502(b)(10)change (APE20220003):

The source submitted an Off Permit/Section 502(b)(10) change request that was received on November 17, 2022 for the addition of Transloading Operation Portable Conveyor (EP 08 06 – EP 08 08)

The source submitted an application for a Title V Minor Revision of Permit V-21-006. During the revision process, the Division made the following changes:

- Permit language was updated to be consistent and clear.
- Emission Group 10 was combined into a single table in the SOB/Summary to match the permit.
- Emission Groups 11 and 14 were grouped with the rest of the fugitive emissions in the permit and SOB/Summary.
- Addition of the milled lime loadout operation equipment (EP 22 20 EP 22 23; EP 14 18) at the existing Fairfield Lime Screening Building (EP 23 04). It has been demonstrated that the increase in emissions associated with the installation of the milled lime loadout operation (EP 22 20 EP 22 23; EP 14 18) will not exceed any significant emission rates (SER) as defined in 401 KAR 51:001. The results are as follows:

PSD Criteria Pollutant	VOC	SO_2	NO _X	CO	PM	PM ₁₀	PM _{2.5}
Emissions (tpy)	0	0	0	0	6.088	5.116	2.649
PSD SER (tpy)	40	40	40	100	25	15	10
Further PSD Review	No	No	No	No	No	No	No

• The increase in emissions of each pollutant from the project is less than 50 percent of the SER; therefore, no further requirements to be added in the permit.

V-21-006 R1 Emission Summary						
Dollutont	2022	Previous PTE Change		Revised PTE		
Pollutalit	Actual (tpy)	V-21-006 (tpy)	(tpy)	V-21-006 R1 (tpy)		
СО	363.0	1332.7	1.4	1334.1		
NO _X	750.2	2592.2	6.7	2598.9		
PT	59.08	374.1	-23.4*	350.7		
PM_{10}	38.21	340.2	-20.6*	319.6		
PM _{2.5}	14.40	213.2	-5.9*	207.3		
SO_2	104.5	1208.5	0.5	1209		
VOC	0.003717	87.53	0.39	87.92		
Lead	0.0000343	0.0018	0	0.0018		
Greenhouse Gases (GHGs)						
Carbon Dioxide	774,304	1,963,430	250	1,963,680		
Methane	0.0005509	94.36	0.01	94.37		
Nitrous Oxide	0.0001101	13.76	0	13.76		
CO ₂ Equivalent (CO ₂ e)	774,304	1,969,888	252	1,970,140		
Hazardous Air Pollutants (HAPs)						
Hydrochloric Acid	49.03	140.4	0	140.4		
Combined HAPs	49.03	140.5	0	140.5		

*The negative values are a result of the removal of PM emissions from the coal burner part of EP 07 01 and the source's update of PM emission factors for EP 23 04.

Application Received: 2/11/2021		Application Complete: 6/29/2021			
Permit Action: Initial	⊠Renewal	□Significant Re	ev. Minor Rev.	□Administrative	
Construction/Modification	n Requested? [🗌 Yes 🖂 No	NSR Applicable?	🗌 Yes 🛛 No	

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

Description of Action: 502(b)(10)change (APE20210001):

The source submitted an Off Permit/Section 502(b)(10) change request that was received on February 4, 2021 for the addition of two hoppers (EP 01 45, EP 01 46) and one conveyor (EP 01 47).

Renewal (APE20210002):

The source submitted an application for a renewal of the operating permit V-16-014 R2 and to update the capacity of the Diesel Fuel Tank (Mine Shaft Emergency Generator EP 24 07) from 30 to 660 gallons

V-21-006 Emission Summary						
Dollutont	2019 Actual	Revised PTE				
Pollutalit	(tpy)	V-21-006 (tpy)				
CO	319.69	1332.67				
NO _X	660.7	2592.15				
PT	121.58	374.1				
PM_{10}	101.95	340.2				
PM _{2.5}	39.13	213.2				
SO_2	92.07	1208.54				
VOC	0	87.53				
Lead	3.09E-05	1.753E-03				
Greenhouse Gases (GHGs)						
Carbon Dioxide	682009.04	1963430				
Methane	0	94.36				
Nitrous Oxide	0	13.76				
CO ₂ Equivalent (CO ₂ e)	682009.04	1969888				
Hazardous Air Pollutants (HAPs)						
Hydrochloric Acid	44.2	140.43				
Combined HAPs	44.21	140.5				

APPENDIX A – ABBREVIATIONS AND ACRONYMS

- AAQS – Ambient Air Quality Standards BACT - Best Available Control Technology – British thermal unit Btu 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 – Millimeter of mercury column height mmHg 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 - Particulate Matter equal to or smaller than 2.5 micrometers PM_{2.5} PSD – Prevention of Significant Deterioration PTE – Potential to Emit
- SO₂ Sulfur Dioxide
- TF Total Fluoride (Particulate & Gaseous)
- VOC Volatile Organic Compounds