

**DRAFT**

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

**MEMORANDUM**

**October 28, 2020**

**TO:** Phillip Fielder, P.E., Chief Engineer

**THROUGH:** Rick Groshong, Environmental Manager, Compliance and Enforcement

**THROUGH:** Phil Martin, P.E., Manager, Existing Source Permits Section

**THROUGH:** Ryan Buntyn, P.E., Existing Source Permits Section

**FROM:** David S. Schutz, P.E., New Source Permits Section

**SUBJECT:** Evaluation of Permit Application No. **2020-0158-TV3**  
U. S. Lime Company - St. Clair  
Marble City Facility  
Facility ID: 655  
Section 14, T13N, R23E, Marble City, Sequoyah County  
Located 1 Mile Northwest of Marble City, Oklahoma on County Road 17  
Latitude: 35.601°N, Longitude 94.831°W

**SECTION I. INTRODUCTON**

U. S. Lime Company - St. Clair (formerly Global Stone St. Clair Inc.) has requested a renewal Title V operating permit for their Marble City crushed limestone and lime calcining facility (SIC 3274). That facility is currently operating under Permit No. 2013-2239-TV2 issued November 16, 2015. The original operating permit, Permit No. 99-125-TV, was issued March 22, 2004. Construction Permit No. 2008-284-C (M-1) (PSD) was issued on November 1, 2013; the requirements and allowances of the Prevention of Significant Deterioration (PSD) permit will be incorporated into this permit renewal. The facility is a major source for PSD and an “area” source of Hazardous Air Pollutants (HAPs).

This renewal includes the following key changes from the previous permit which were authorized by Permit No. 2008-284-C (M-1) (PSD):

- Replacement of the Fuller kiln with a new energy efficient vertical parallel shaft regenerative kiln (solid and natural gas fuel-fired with dust collector).
- New secondary crusher, belts, feeders & other Crusher Department upgrades.
- Revamped lime storage & loadout systems including new dust collectors.
- Reduction of the SO<sub>2</sub> emission limits for the kilns.
- Reorganization of all permitted Emission Unit Groups (EUG) and emission points.

Since the facility emits more than 100 tons per year (TPY) of a regulated pollutant, it is subject to Title V permitting requirements. Emission units (EUs) have been arranged into Emission Unit Groups (EUGs) in Section III.

## SECTION II. FACILITY DESCRIPTION

This facility commenced operations in 1964 and is an existing major source by virtue of potential NO<sub>x</sub>, PM<sub>10</sub>, CO, and SO<sub>2</sub> emissions in excess of 100 TPY. The facility is an integrated lime and high purity limestone production facility that mines limestone and processes it into a variety of lime products for air pollution controls, water treatment, and other environmental control processes. The overall process involves crushing of mined limestone, which is nearly pure calcium carbonate (CaCO<sub>3</sub>), to produce chemical-grade limestone, lime (CaO), and hydrated (“slaked”) lime (Ca(OH)<sub>2</sub>) products.

### Mine Department

Limestone with a high calcium carbonate content is recovered from an underground mine. Recovered limestone is transported via trucks to the Crusher Department.

### Crusher Department

The Crusher Department reduces limestone to various sizes using a two-stage crushing and screening process. Primary crushing is accomplished with a steel jaw crusher to reduce limestone size. Primary crusher discharge is conveyed to the primary vibratory screen. The primary screen separates the limestone into three sizes: fines, mid-size and oversize. Fines are conveyed to a fines stockpile for further processing at the Fines Department or stockpiled. Mid-size are conveyed to the secondary screen for further classification. Oversized rock is conveyed to the secondary crusher for further crushing. The secondary crusher is a roll crusher that reduces oversized rock. Secondary crusher discharge is returned to the primary screen for re-classification as previously described.

Mid-size crushed limestone from the primary screen is further classified by size at the secondary vibratory screen. The secondary screen produces various sized kiln feed products. The products are stockpiled and subsequently conveyed to the Kiln Department for processing into quicklime.

The Crushing Department has the potential to emit fugitive dust as a consequence of multiple stages of crushing, screening, conveying, and truck haulage to load-out points and stockpiling. The fugitive dust at transfer points is further controlled by water spray bars mounted at the primary crusher and at several conveyor discharge points.

### Fines Department

The Fines Department processes various sizes of limestone by drying, grinding, and sizing to several products. Limestone fines are conveyed from a fines stockpile to the Fines Building, where the fine material is stored in a fines feed bin for processing. In the roller mill system, the fines are conveyed from the feed silo to a roller mill with a natural gas-fired air heater and after grinding, air conveyed to a classifier and then into product silos. This process is then loaded into bulk trucks and railcars via loading spouts under the product silos.

Fugitive emissions may result from the fines belt conveyors and loading points. Process emissions at the Fines Department include: the 100-ton Fines Feed Silo and the Fines Department baghouse, which serves the flash furnace, Raymond mill, product silos, truck loading spouts, and rail loading spouts.

### Kiln Department

The Kiln Department consists of two kilns: a Kennedy Van Saun (KVS) model rotary kiln (with wet scrubber and preheater) that was installed in 1964, and a new parallel shaft regenerative kiln (Vertical, or Maerz Kiln) that was constructed and started operation in 2019. As of September 12, 2019, the Vertical Kiln replaced the Fuller Kiln which has been taken out of service.

Sized limestone is conveyed from the secondary screen product stockpiles via vibratory feeders and belt conveyors to the KVS kiln feed bin. Stone flows through the preheater where it is preheated with gases exiting the rotary kiln. This kiln is fired with coal, petroleum coke and natural gas or a combination of these.

The sized limestone is calcined in the kiln system producing quicklime that must be cooled and often sized to meet market specifications. The entire KVS kiln system is under negative pressure from an induced draft fan located downstream of the cyclones and KVS wet scrubber which removes particulate matter from the exhaust gas stream. The particulate matter collected in the cyclones is partially calcined, which is then transported to a silo where it is loaded into trucks for sale.

The new Vertical Kiln is also fired with any combination of coal, petroleum coke, and/or natural gas with a quicklime production capacity of 210,240 TPY (667 TPD) lime. A small natural gas fired inline heater is located adjacent to the Vertical Kiln bowl mill to provide drying for the solid fuel. Exhaust gas from the new kiln passes through a baghouse dust collector (30-DC-1), an I.D. fan and through a stack to atmosphere.

Quicklime from the Vertical Kiln passes through new and existing lime product sizing, storage, and loadout facilities (see Lime Storage and Loadout Department). A pneumatic conveying system conveys lime kiln dust (LKD) from the Vertical Kiln dust collector as well as limestone and feeder dust from the De-dusting dust collector (30-DC-2) to existing Bin #10.

### Lime Storage and Loadout Department

Lime from the kilns is conveyed to screens where it is sized to meet customer requirements. The quicklime is conveyed to product silos according to product size and quality. Dust collectors are strategically placed to collect dust throughout the quicklime handling system to keep silos and transfer points under negative pressure.

Quicklime silos are available to receive lime from the KVS Kiln or Vertical Kiln. Areas atop these silos contain scalping screens, lime crushers and sizing screens. Lime is transferred from the screens/crushers and stored in lime bins. Bins #13 and #17 were newly constructed in the Vertical Kiln project.

Dust collectors control particulate matter generated in the silo withdrawal systems and in the truck and rail loading processes.

### Hydrator Department

The Hydrator Department receives quicklime for processing into hydrated lime, or  $\text{Ca}(\text{OH})_2$ . This is accomplished by application of water to quicklime in the hydrator, located inside the hydrator building. This is an exothermic process requiring no process heat.

Quicklime is transferred from the Kiln Department to the hydrator building via pneumatic pipeline (or pneumatic discharge trucks) from quicklime silos.

Quicklime is conveyed from the 25-ton feed bin to the hydrator which uses a multi-stage mixing process to add the correct amount of water to the quicklime to produce hydrated lime. The hydrated lime is then conveyed to a rotary impact mill and then to a classifier to remove oversize material. Hydrate is pneumatically conveyed to hydrate product silos. Product loading is done by gravity loading into enclosed bulk trucks or rail cars from the product silos. A lesser portion of the product is bagged.

Emissions from the Hydrator Department come from the hydrator vent stack, connected to the hydrator unit, the quicklime feed bin vent and the dust collector, which serves the product silos and truck/rail loading spouts. At maximum capacity, the Hydrator Department could produce approximately 16 tons of hydrate per hour.

### Solid Fuels Processing Department

Solid fuels are received into open-air stockpiles, then moved by front-end loader to receiving hoppers where coal and petroleum coke are fed or blended. Each kiln has a bowl mill which grinds the coal/coke. An air classifier is also used to separate particles for processing.

The KVS bowl mill is swept by an air stream heated with air from the kiln hood and the resultant air/fuel mixture is fed to the kiln through a single burner. This is referred to as a “direct fired” system.

Solid fuel for the Vertical Kiln is similarly prepared in a bowl mill which utilizes heat provided by a gas fired air heater to dry the fuel. This is an “indirect fired” system where the air/fuel mixture is carried to a cyclone and process filter (i.e., dust collector) which discharges into a small pulverized solid fuel storage bin. Pulverized fuel then flows through a dosimeter which splits the required flow streams to fuel nozzles in the Vertical Kiln shafts.

The Fuller Lime Bin has been converted to a solid fuel storage bin serving the Vertical Kiln solid fuel processing equipment. A new weigh feeder conveys fuel from this bin to the bowl mill.

**SECTION III. EQUIPMENT**

Emission units have been arranged into EUGs as follows.

**EUG-1            Crusher Department, Equipment Subject to NSPS Subpart OOO**

EU	Point	Description	Process Rate		Construction or Last Modified Date
			TPH	TPY	
EC-3A	F1A	Haul Truck to Dump Hopper (Haul truck to 8-DH-1)	554	886,400	8-1998
EC-3B	F1B	Primary Crusher to Belt Conveyor (8-CR-1 to 8-BC-1)	554	886,400	8-1998
EC-4	F2	Belt to Belt (8-BC-1 to 8-BC-2)	554	886,400	10-1998
EC-5	F3	Belt to Primary Screen (8-BC-2 to 8-SN-1)	989.8	1,583,678	10-1998
EC-6	F4	Primary Screen to Belt (8-SN-1 to 8-BC-5) Primary Screen to Belt (8-SN-1 to 8-BC-10) Primary Screen to Belt (8-SN-1 to 8-BC-3A)	989.8	1,583,678	10-1998
EC-9	F6	Belt to Secondary Crusher (8-BC-3A to 8-CR-2)	435.8	697,277	09-2019
EC-10	F7	Secondary Crusher (8-CR-2 to 8-BC-3B)	435.8	697,277	09-2019
EC-11	F8	Belt to Belt (8-BC-3B to 8-BC-2)	435.8	697,277	09-2019
EC-13	F10	Belt to PLS Feed Pile (8-BC-10 to 7-PILE-1)	125	200,000	10-1998
EC-14	F11	Belt to Secondary Screen (8-BC-5 to 8-SN-2)	989.8	696,400	10-1998
EC-15	F12	Secondary Screen to Belt (8-SN-2 to 8-BC-8) Secondary Screen to Belt (8-SN-2 to 8-BC-7) Secondary Screen to Belt (8-SN-2 to 8-BC-6)	989.8	696,400	10-1998
EC-16	F13	Belt to Large Kiln Feed Pile (8-BC-8 to 8-PILE-5)	100	400,000	10-1998

**EUG-2 Crusher Department - Grandfathered**

EU	Point	Description	Process Rate		Construction Date
			TPH	TPY	
EC-17	F14	Belt to Medium Kiln Feed Pile (8-BC-7 to 8-PILE-4)	125	500,000	1966
EC-18	F15	Belt to Small Stone Pile (8-BC-6 to 8-PILE-3)	150	600,000	1966
EC-19	F16	Loader from Temp Surge Pile to Dump Hopper (8-PILE-2 to 8-DH-1)	125	54,000	1966
EC-20	F17	Loader to Crusher Screenings/Waste Pile (7-PILE-1 to 8-PILE-1)	125	200,000	1966

**EUG-3 Fines Department**

EU	Point	Description	Process Rate		Construction or Last Modified Date
			TPH	TPY	
Loader	7-BC-2	Loader to PLS Feed Hopper (Loader to 7-BC-2)	25	200,000	1988
EF-4	F18	Feed Hopper Discharge to Belt (7-BC-2 to 7-BC-1)	25	200,000	1988
EF-5	F19	Belt to PLS Feed Bin (7-BC-1 to 7-FB-1)	25	200,000	1988
EF-8, 12, 16, 18, 19, 20	7-DC-1	PLS/Fines Plant Dust Collector	N/A	N/A	1988

Most emissions from this unit are from a baghouse designated “7-DC-1.” This unit is subject to emissions limitations of NSPS Subpart OOO of 0.022 gr/DSCF.

**EUG-4 Kiln Department – Non-Grandfathered Equipment**

EU	Point	Description	Process Rate		Construction Date
			TPH	TPY	
EK-37	F48	Bin 10 (LKD and off-spec waste)	3	12,000	1982
EK-38	3-DC-49	Bin 10 Loading Spout	3	12,000	1982
EK-46	3-DC-50	Bin 9 Loading System w/weigh belt	--	--	1985
EK-49	3-DC-51	Bin 11 Loadout System w/ weigh belt	--	--	1996
EK-60	3-DC-52	Bin 14 Loading Spout	--	--	1985
EK-62	3-DC-53	Bin 15 Loading Spout	--	--	1988
EK-48 EK-59 EK-61 EK-76 EK-83 EK-51/64 3-SN-6	3-DC-1*	Main Lime Handling System Dust Collector	--	--	2019
30-DC-2	30-DC-2	Kiln Feed Dedusting Dust Collector	--	--	2019
3-DC-5	3-DC-5	Maerz ROK Lime System Dust Collector	--	--	2019

EU	Point	Description	Process Rate		Construction Date
			TPH	TPY	
EK-111	3-DC-8	KVS LKD Bin	3.1	8,000	1984
EK-113	F61	KVS LKD Bin Loadout System	3.1	8,000	1984
EK-133	30-DC-3	North Silo	3.1	5,000	1996
EK-134	30-DC-3	South Silo	3.1	5,000	1996
3-DG-14	3-DG-14	Maerz Feed Belt to Maerz Kiln Feed Bins (4-BC-12 to 3-DG-14)	60	520,485	2019
4-SN-3	4-SN-3	Maerz Feed Bins to Kiln Feed Screen (3-DG-14 to 4-SN-3)	60	520,485	2019
4-PILE-1	4-PILE-1	Kiln Feed Screen to Fines Bunker (4-SN-3 to 4-PILE-1)	10	26,024	2019
4-SH-1	4-SH-1	Kiln Feed Screen to Bottom Weigh Hopper (4-SN-3 to 4-SH-1)	60	494,460	2019
4-SW-1	4-SW-1	Bottom Weight Hopper to Maerz Skip Winch (4-SH-1 to 4-SW-1)	60	494,460	2019

\*3-DC-1 controls legacy emission units EK-48 (Bin 11), EK-59 (Bin 14), EK-61 (Bin 15), EK-76 and EK-83 (3-SN-1, North and South Screens), EK-51/64 (Bins 12/16), and new emission unit 3-SN-6 (screen in new penthouse).

**EUG-5 Kiln Department - Grandfathered Equipment**

EU	Point	Description	Process Rate		Construction Date
			TPH	TPY	
EK-1	F20	24" Belt Conveyor	60	781,830	1964
EK-2	F21	24" Crossover Belt	60	781,830	1964
EK-8	F41	KVS Feed Belt	25	234,056	1964
EK-13	F44	KVS Ash Ring Discharge Chute	0.1	520	1964
EK-15	F46	KVS Pan Conveyor	10	87,600	1964
EK-32	F36	Big Bin	16	138,060	1971
EK-33	F35	24" Crossover Belt	16	210,240	1971
3-BN-1	3-BC-4	Lime Bin 1 to Belt (3-BN-1 to 3-BC-4)	6.7	55,757	1964
3-CR-1	3-CR-1	Belt to 2-Roll Crusher (3-BC-4 to 3-CR-1)	6.7	55,757	1964
3-BN-2	3-BC-3	Lime Bin 2 to Belt (3-BN-2 to 3-BC-3)	1.8	14,980	1964
3-BN-3	3-BC-4	Lime Bin 3 to Belt (3-BN-3 to 3-BC-4)	1.8	14,980	1964
3-BN-4	3-BC-3	Lime Bin 4 to Belt (3-BN-4 to 3-BC-3)	1.8	14,980	1964
3-BN-5	3-BC-4	Lime Bin 5 to Belt (3-BN-5 to 3-BC-4)	8.9	23,075	1964
3-BN-7	3-BC-4	Lime Bin 7 to Belt (3-BN-7 to 3-BC-6)	8.9	23,075	1964
3-BN-6	3-BC-3	Lime Bin 6 to Belt (3-BN-6 to 3-BC-3)	25	10,000	1964
3-BN-8	3-BC-3	Lime Bin 8 to Belt (3-BN-8 to 3-BC-3)	8.9	23,075	1964
3-BC-6	3-BC-6	Belt to Belt (3-BC-3 to 3-BC-6)	25	63,035	1964
EK-77	F73	Belt to Truck (3-BC-6 to Dolo Blend Loadout)	25	63,035	1964
EK-84	F105	2-Roll Crusher to Elevators (3-CR-1 to 3-BEL-9/3-BEL-5)	13	55,757	1964
3-SN-1	3-CR-1	Screen to Roll Crusher (3-SN-1 to 3-CR-1)	6.7	55,757	1964

**EUG-6 Insignificant Activities**

EU	Point	Description	Process Rate	Construction Date
EK-145	F45	KVS Exhaust Gas Discharge Cleanout	Emergency Only	1964
M-6	P-13	Diesel Storage Tank (12,000 gal.)	175,000 gal/yr	1998

**EUG-7 Hydrator Department**

EU	Point	Description	Process Rate		Construction Date
			TPH	TPY	
6-DC-2	6-DC-2	Hydrate Feed Dust Collector	16	46,800	1988
6-WS-1	6-WS-1	Hydrator Wet Scrubber	16	46,800	1988
6-DC-1	6-DC-1	Hydrate Product Bin/Loadout Dust Collector	16	46,800	1988

**EUG-8 Stockpiles**

EU	Point	Description	Process Rate		Construction Date
			TPH	TPY	
8-PILE-5	8-PILE-5	Large Stone Pile	100	400,000	1964
8-PILE-4	8-PILE-4	Med. Stone Pile	125	500,000	1964
8-PILE-3	8-PILE-3	Small Stone Pile	150	600,000	1964
7-PILE-1	7-PILE-1	PLS/Fines Plant Feed Pile	125	200,000	1988
8-PILE-1	8-PILE-1	Crusher Screenings/Waste Stockpile	125	200,000	1964
8-PILE-2	8-PILE-2	Temporary Surge Stockpile	125	54,000	1964
4-PILE-1	4-PILE-1	Fines Bunker	25	200,000	1964
5-PILE-1	5-PILE-1	Coal Stockpile	5	40,000	1976
5-PILE-2	5-PILE-2	Coke Stockpile	5	40,000	2001

**EUG-9 Unpaved Haul Roads**

EU	Point	Description	Construction Date
9	9	Unpaved Quarry Haul Roads	1964

**EUG-11 Miscellaneous Fugitives**

EU	Point	Description	Process Rate		Construction Date
			TPH	TPY	
M-1	F97	Crushed Limestone Transfer to Rail Cars	14	120,000	2004
M-4	F100	Movement of Ash Ring to Waste	0.06	520	1964



**EUG-13 Solid Fuel Processing Equipment**

EU	Point	Description	Process Rate		Construction Date
			TPH	TPY	
EK-88	F54	Solid Fuel Storage Pile (loader) to South Solid Fuel Hopper (5-PILE-1 to 5-HP-1)	4.6	40,000	1975
EK-89	F55	Solid Fuel Storage Pile (loader) to North Solid Fuel Hopper (5-PILE-2 to 5-HP-4)	4.6	40,000	1975
5-BC-2	5-BC-2	Belt to Belt (5-BC-4 to 5-BC-2)	4.6	40,000	1975
5-BC-5	5-BC-2	Belt to Belt (5-BC-5 to 5-BC-2)	4.6	40,000	1975
EK-90	F56	Belt to Belt (5-BC-2 to 5-BC-1)	9.1	80,000	1975
5-BR-1	5-BR-1	Coal Mill Air Heater			2020
5-DC-1	5-DC-1	Solid Fuel Silo Dust Collector	--	--	2019
5-DC-2	5-DC-2	Grinding Circuit Process Filter	--	--	2020
5-BEL-1	5-BEL-1	Belt to Solid Fuel Elevator (5-BC-1 to 5-BEL-1)	9.1	80,000	1975
5-SF-1	5-SF-1	Solid Fuel Silo (North) to Solid Fuel Weigh Feeder (5-CS-1 to 5-SF-1)	3.7	30,958	1975
5-CS-2	5-CS-2	Solid Fuel Elevator to Solid Fuel Silo (South) (5-BEL-1 to 5-CS-2)	7	37,000	2019
5-CL-1	5-CL-1	Solid Fuel Weigh Feeder to KVS Solid Fuel Mill/Classifier (5-SF-1 to 5-CL-1)	3.7	30,958	1975
5-CS-1	5-CS-1	Solid Fuel Elevator to Solid Fuel Silo (North) (5-BEL-1 to 5-CS-1)	3.7	30,958	1975
5-SF-3	5-CL-2	Solid Fuel Weigh Feeder to Maerz Solid Fuel Mill/Classifier (5-SF-3 to 5-CL-2)	7	37,000	2019

**EUG-14 Lime Kilns**

EU	Point	Description	Process Rate		Construction/Modification Date
			TPH	TPY	
EK-100	P-5	KVS Kiln	10	87,600	1975
30-DC-1	30-DC-1	Maerz Kiln	27.8	210,240	2019

**EUG-15 Gasoline Storage Tank**

EU	Point	Description	Volume, Gallons	Throughput, Gallons/yr	Construction Date
M-7	P-14	Gasoline Storage Tank	2,000	50,000	1998

**EUG-17 Reciprocating Internal Combustion Engines (RICE)**

EU	Point	Description	Process Rate HP	Construction Date
1-STM-1	1-STM-1	KVS Kiln Diesel Engine	85	1964
1-STM-2	1-STM-2	Maerz Kiln Emergency Generator Engine	74	2019

**SECTION IV. EMISSIONS**

Emissions are based on the maximum material process rates listed in the “Equipment” section, continuous operation (except for emergency RICE), and the emission factors references listed following.

**EUG-1 (Crusher Department) and EUG-2 (Crusher Department - Grandfathered):** PM<sub>10</sub> emissions were calculated using the following factors from AP-42 (08/04), Section 11.19.2:

1. Crushers: 0.0024 lb/ton (Tertiary Crushing factor used as upper limit for Primary and Secondary Crushing).
2. Screens: 0.00074 lb/ton (controlled).
3. Crushed stone conveyor transfer: 0.000046 lb/ton (controlled).

The crushing emission factor (0.0024 lb/ton) and conveyor transfer emission factor (0.000046 lb/ton) were then adjusted for enclosed sources using a 90% control efficiency. With the adjustment, the PM emission factor used for crushing (enclosed) is 0.00024 lb/ton and for conveyor transfer (enclosed) is 0.0000046 lb/ton.

For conveyor transfer to storage piles, PM<sub>10</sub> emissions are based on the emission factors of AP-42 (11/06) Section 13.2.4.3, Equation (1) as follows:

$$E \text{ (lb/ton)} = k (0.0032)(U/5)^{1.3}/(M/2)^{1.4}$$

with a value of 0.00207 lb/ton (controlled) or 0.0123 lb/ton (dry/uncontrolled); where k is the particle size multiplier value of 0.35 for PM<sub>10</sub>; U is the mean wind speed value of 10.2 miles/hr; M is the moisture content value of 2.5% for crushed limestone (due to the use of water sprays) or 0.7% for dry limestone/uncontrolled.

**EUG-3 (Fines Department):** With the exception of material transfer operations, PM emissions from the remaining sources in EUG-3 are controlled by a dust collector. PM emissions from the PLS/Fines Plant Dust Collector (7-DC-1) were based on the pre-1998 NSPS, Subpart OOO grain loading limit (0.022 gr/dscf) and a maximum stack flow of 10,662 DSCFM (equivalent to 13,600 ACFM at 200°F and 2% moisture).

1. PM emissions from material transfer operations are based on AP-42 (08/04), Section 11.19.2: 0.000046 lb/ton (controlled conveyor transfer).
2. Combustion emissions from the 9.0 MMBTUH gas-fired dryer was based on AP-42 (7/98), Section 1.4.
3. GHG emissions are based on natural gas emission factors from 40 CFR Part 98, Subpart C (e.g., 53.02 kg CO<sub>2</sub>/MMBTU).

**EUG-4 (Kiln Department):**

1. Material (stone) transfer emissions are based on: AP-42 (08/04), Sections 11.19.2. For uncontrolled stone transfer, 0.0011 lb/ton was used.
2. PM<sub>10</sub> emission factor for product loading with open truck: 0.556 lb/ton. AP-42 (1/95), Sections 11.17-4: PM factor of 1.5 lb/ton was adjusted by dividing by 2.7 (based on the average PM/PM<sub>10</sub> ratio for the AP-42 (08/04) Table 11.19.2-2 factors) to arrive at factor of 0.556 lb/ton.
3. PM<sub>10</sub> emission factor for product loading with enclosed truck: 0.226 lb/ton. AP-42 (1/95), Sections 11.17-4: PM factor of 0.61 lb/ton was adjusted by dividing by 2.7 (based on the average PM/PM<sub>10</sub> ratio for the AP-42 (08/04) Table 11.19.2-2 factors) to arrive at factor of 0.226 lb/ton.

Several EUG-4 sources are controlled by dust collectors. PM emissions from the dust collectors are based on an outlet grain loading estimate (0.010 gr/dscf).

**EUG-5 (Kiln Department – Grandfathered):**

1. Crushers and screens emissions are based on AP-42 Sections 11.17 (2/98) and 11.19.2 (08/04).
2. Material transfer emissions are based on the following:
  - a. For crushed stone conveyor transfer, AP-42 (08/04), Section 11.19.2 as follows:
    - i. 0.000046 lb/ton (controlled) factor was used for the stone transfer from EU ID 4-SN-1 (formerly EK-18 in Permit No. 2008-284-TVR) controlled by water spray.
    - ii. Uncontrolled material transfer emissions are based on 0.0011 lb/ton factor.
    - iii. For enclosed material transfer, PM emissions are based on 0.000046 lb/ton (controlled) which was adjusted using a 90% control efficiency. With the adjustment, the PM emission factor is 0.0000046 lb/ton.
  - b. For material transfer to a storage pile, AP-42 (11/06) Section 13.2.4.3, Equation (1) as follows:

$$E \text{ (lb/ton)} = k (0.0032)(U/5)^{1.3}/(M/2)^{1.4}$$

with a value of 0.0123 lb/ton (uncontrolled); where k is the particle size multiplier value of 0.35 for PM<sub>10</sub>; U is the mean wind speed value of 10.2 miles/hr; M is the moisture content value of 0.7% (mean value for stone quarrying and processing of crushed limestone from Table 13.2.4-1).

**EUG-6 (Insignificant Activities):**

1. KVS exhaust gas discharge cleanout emissions are based on AP-42 (11/06) Section 13.2.4.3, Equation (1) as follows:

$$E \text{ (lb/ton)} = k (0.0032)(U/5)^{1.3}/(M/2)^{1.4}$$

with a value of 0.052 lb/ton (uncontrolled); where k is the particle size multiplier value of 0.35 for PM<sub>10</sub>; U is the mean wind speed value of 10.2 miles/hr; M is the moisture content value of 0.25% (minimum moisture content required for Equation 1).

2. VOC emissions from the diesel tank were calculated using AP-42 (3/20), Section 7.1.

**EUG-7 (Hydrator Department):** PM Emissions from the hydrator are based on a discharge rate of 16 TPH and 46,800 TPY hydrated lime and the original manufacturer guarantee (0.24 lb/ton) referenced in Permit #89-003-O; emissions from the hydrate feed bin are based on the Permit No. 89-003-O emission limit (1.13 lb/hr). East product silo emission factor (0.025 lb/ton) based on Permit No. 2008-284-TVR.

**EUG-8 (Stockpiles):** AP-42 (1/95), Section 13.2.4. Estimates of particulate emissions from storage piles are based on *Control of Open Fugitive Dust Sources* (U.S. EPA. EPA-450/3-88-008, 09/8), where the emission factors are calculated as follows:

$$\text{Emission Factor (lb/day-acre)} = 1.7(k) (s/1.5)(365-P/235)/(f/15)$$

1. For limestone storage piles, the factor has a value of 2.04 lb/day-acre for PM<sub>10</sub>, where
  - a. k is the particle size multiplier value of 0.5;
  - b. s is the silt content with a value of 1.6 percent (AP-42 Table 13.2.4-1);
  - c. P is the number of days with precipitation per year with a value of 100 (AP-42 Figure 13.2.2-1);
  - d. f is the percentage of time that wind speed exceeds 12 mph at the mean pile height with a value of 30 percent (average wind speed from 1996 to 2000).
2. For aggregate lime storage piles, the factor has a value of 4.98 lb/day-acre for PM<sub>10</sub>, where
  - a. k is the particle size multiplier value of 0.5;
  - b. s is the silt content with a value of 3.9 percent (AP-42 Table 13.2.4-1);
  - c. P is the number of days with precipitation per year with a value of 100 (AP-42 Figure 13.2.2-1);
  - d. f is the percentage of time that wind speed exceeds 12 mph at the mean pile height with a value of 30 percent.

3. For coal/coke storage piles, the factor has a value of 2.81 lb/day-acre for PM<sub>10</sub>, where
  - a. k is the particle size multiplier value of 0.5;
  - b. s is the silt content with a value of 2.2 percent (AP-42 Table 13.2.4-1);
  - c. P is the number of days with precipitation per year with a value of 100 (AP-42 Figure 13.2.2-1);
  - d. f is the percentage of time that wind speed exceeds 12 mph at the mean pile height with a value of 30 percent.

The emission factor was then multiplied by the surface area of that particular pile that resulted in PM emissions.

**EUG-9 (Unpaved Haul Roads):** Emission estimates for the roads are being updated based on revised truck capacities, corrected distances, and new information published in AP-42 (11/06) Sections 13.2.1 and 13.2.2. The following equation is used to calculate the PM<sub>10</sub> emission factor for unpaved roads:

$$E \text{ (lb/VMT)} = (k)(s/12)^a(W/3)^b * [(365 - P)/365]$$

The input parameters and emission factor for the plant roads are as follows:

Parameter	Description	Unit	Quarry Road Value
k	Particle size multiplier for PM <sub>10</sub>	--	1.5
s	Surface material silt content	%	8.3
W	Average vehicle weight	Tons/vehicle	35.4
a	Empirical constant	--	0.9
b	Empirical constant	--	0.45
P	Number of days with > 0.01" precipitation	days	95
E	Controlled annual PM <sub>10</sub> Emission Factor	lbs/VMT	1.30

VMT = vehicle miles traveled.

Maximum facility limestone production from the quarry is estimated at 886,400 TPY.

**EUG-11 (Facility-wide Miscellaneous Fugitives):** AP-42 (8/04), Section 11.19.2:

1. truck loading – conveyer, crushed stone: 0.0001 lb/ton
2. conveyor transfer point: 0.0011 lb/ton

**EUG-13 (Solid Fuel Processing Equipment):** For coal/coke transfer, AP-42 (11/06) Section 13.2.4.3, Equation (1) as follows:

$$E \text{ (lb/ton)} = k (0.0032)(U/5)^{1.3}/(M/2)^{1.4}$$

with a value of 0.000909 lb/ton; where k is the particle size multiplier value of 0.35 for PM<sub>10</sub>; U is the mean wind speed value of 10.2 miles/hr; M is the moisture content value of 4.5% for coal (same is assumed for coke). For PM<sub>2.5</sub> the particle size multiplier (k) is

0.053 and resulting emission factor is 0.000138.

For EUG-13 sources controlled by dust collectors, PM emissions are based on an outlet grain loading estimate (0.010 gr/dscf).

**EUG-14 (Kilns):**

1. KVS kiln emissions are based on the following:
  - a. PM<sub>10</sub>, PM<sub>2.5</sub>, CO emission factors: AP-42 (2/98), Section 11.17:
    - a. 1.4 lb/ton (PM<sub>10</sub>) and 0.28 lb/ton (PM<sub>2.5</sub>) for coal-fired rotary kiln with venturi scrubber (even though PM emission limitations will be based on Subchapter 19 allowables, expected emissions will continue to be calculated using AP-42 factors.)
    - b. 1.5 lb/ton (CO) for coal-fired rotary kiln. The KVS rotary kiln is an existing unit and has no applicable CO emission standard in OAC regulation or in past permits.
  - b. NO<sub>2</sub>: emission factor is based on OAC 252: 100-33 limit of 0.7 lb/MMBTU.
  - c. SO<sub>2</sub>: Allowable emission rate for the KVS kiln was established as 9.3 lb/hr on a 30-day rolling average in Permit No. 2008-284-C (M-1).
2. Vertical Kiln emissions are based on the following:
  - a. PM<sub>10</sub>: dust collector air flow and expected outlet grain loading (0.022 gr/dscf)
  - b. PM<sub>2.5</sub>: estimated by multiplying the PM<sub>10</sub> emissions by a factor of 0.491. This factor is the ratio of the particle size distribution data for PM<sub>2.5</sub> (27 percent) and PM<sub>10</sub> (55 percent) listed in AP-42 (08/04) Table 11.17-7 for the "Kiln with Fabric Filter" category. An additional safety factor of 85% was added to the Kiln PM<sub>2.5</sub> emissions estimate due to the uncertainty of condensable PM and PM<sub>2.5</sub> emission measurements.
  - c. CO: 4.22 lb/ton factor is the BACT limit and the allowable emission rate is 105.5 lb/hr (based on modeling completed for Permit No. 2008-284-C (M-1)).
  - d. NO<sub>x</sub>: 2.20 lb/ton is based on vendor data with safety factor.
  - e. SO<sub>2</sub>: 0.868 lb/ton is the BACT limit. Allowable emission rate is 21.7 lb/hr on a 30-day rolling average (based on modeling completed for Permit No. 2008-284-C (M-1)).

**EUG-15 (Gasoline Storage Tank):** VOC emissions from the tank were calculated using AP-42 (3/20), Section 7.1.

**EUG-17 (RICE Engines):** KVS kiln and Vertical kiln engines emissions are based on the following:

1. AP-42 (10/96) Section 3.3 for diesel engines:
  - i. CO: 0.00668 lb/hp-hr
  - ii. PM<sub>10</sub>: 0.0022 lb/hp-hr
  - iii. NO<sub>x</sub>: 0.031 lb/hp-hr
  - iv. VOC: 0.0025 lb/hp-hr
2. Mass balance was utilized to determine SO<sub>2</sub> emission factor of 1.05E-05 lb/hp-hr.

Assumptions are as following:

- i. Heat content of diesel: 137,000 btu/gal
- ii. Density of diesel: 7.05 lb/gal
- iii. 15 ppmw sulfur

**EUG-1            Crusher Department**

EU	Point	Description	Process Rate		PM <sub>10</sub> Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY	lb/ton	lb/hr	TPY
EC-3A	F1A	Haul Truck to Dump Hopper (Haul truck to 8-DH-1)	554	886,400	0.0024	1.33	1.06
EC-3B	F1B	Primary Crusher to Belt Conveyor (8-CR-1 to 8-BC-1)	554	886,400	0.0021	1.15	0.92
EC-4	F2	Belt to belt (8-BC-1 to 8-BC-2)	554	886,400	0.00207	1.15	0.92
EC-5	F3	Belt to Primary Screen (8-BC-2 to 8-SN-1)	989.8	1,583,678	0.00207	2.05	1.64
EC-6	F4	Primary Screen to Belt (8-SN-1 to 8-BC-5) Primary Screen to Belt (8-SN-1 to 8-BC-10) Primary Screen to Belt (8-SN-1 to 8-BC-3A)	989.8	1,583,678	0.00074	0.73	0.59
EC-9	F6	Belt to Secondary Crusher (8-BC-3A to 8-CR-2)	435.8	697,277	0.00207	0.90	0.72
EC-10	F7	Secondary Crusher (8-CR-2 to 8-BC-3B)	435.8	697,277	0.0024	1.05	0.84
EC-11	F8	Belt to Belt (8-BC-3B to 8-BC-2)	435.8	697,277	0.00207	0.90	0.72
EC-13	F10	Belt to PLS Feed Pile (8-BC-10 to 7-PILE-1)	125	200,000	0.00207	0.26	0.21
EC-14	F11	Belt to Secondary Screen (8-BC-5 to 8-SN-2)	989.8	696,400	0.00207	2.05	0.72
EC-15	F12	Secondary Screen to Belt (8-SN-2 to 8-BC-8) Secondary Screen to Belt (8-SN-2 to 8-BC-7) Secondary Screen to Belt (8-SN-2 to 8-BC-6)	989.8	696,400	0.00074	0.74	0.26
EC-16	F13	Belt to Large Kiln Feed Pile (8-BC-8 to 8-PILE-5)	100	400,000	0.00207	0.21	0.41
<b>Total</b>						<b>12.50</b>	<b>9.00</b>

Note: Due to the mechanical nature of the stone crushing and handling operation, PM<sub>2.5</sub> emissions will be only a small fraction of the PM emissions (approximately 10 percent) and are not quantified here.

**EUG-2      Crusher Department – Grandfathered**

EU	Point	Description	Process Rate		PM <sub>10</sub> Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY	lb/ton	lb/hr	TPY
EC-17	F14	Belt to Medium Kiln Feed Pile (8-BC-7 to 8-PILE-4)	125	500,000	0.00207	0.26	0.52
EC-18	F15	Belt to Small Stone Pile (8-BC-6 to 8-PILE-3)	150	600,000	0.00207	0.31	0.62
EC-19	F16	Loader from Temp Surge Pile to Dump Hopper (8-PILE-2 to 8-DH-1)	125	54,000	0.00207	0.26	0.06
EC-20	F17	Loader to Crusher Screenings/Waste Pile (7-PILE-1 to 8-PILE-1)	125	200,000	0.0123	1.54	1.23
<b>Total</b>						<b>2.37</b>	<b>2.43</b>

**EUG-3      Fines Department**

EU	Point	Description	Process Rate		PM <sub>10</sub> Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY	lb/ton	lb/hr	TPY
Loader	7-BC-2	Loader to PLS Feed Hopper (Loader to 7-BC-2)	25	200,000	0.0011	0.03	0.11
EF-4	F18	Feed Hopper Discharge to Belt (7-BC-2 to 7-BC-1)	25	200,000	0.000046	0.001	0.005
EF-5	F19	Belt to PLS Feed Bin (7-BC-1 to 7-FB-1)	25	200,000	0.0011	0.03	0.11
EF-12 EF-16 EF-18 EF-19 EF-20 EF-8	7-DC-1	PLS/Fines Plant Dust Collector*	10,662 DSCFM		0.022 gr/DSCF	2.02	8.85
<b>Total</b>						<b>2.08</b>	<b>9.07</b>

\*The following sources are routed to Emission Point 7-DC-1: Flash Furnace (EF-12), West Truck Loading Bin (EF-16), East Rail and Truck Loading Bin (EF-18), West Loading Chute – MC-3413 (EF-19), East Loading Chute – MC-3395 (EF-20), and Raymond Mill/Whizzer Classifier (EF-8).



Point ID	Heat Input MMBTUH	Pollutant	Emission Factors lb/MMBTU	Emissions	
				lb/hr	TPY
7-DC-1 (Flash Furnace)	9.0	NOx	0.10	0.90	3.94
		CO	0.084	0.76	3.31
		VOC	0.0055	0.05	0.22
		SO <sub>2</sub>	0.0006	0.01	0.02

**EUG-4 Kiln Department (Non-Grandfathered)**

EU	Point	Description	Process Rate		PM <sub>10</sub> Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY	lb/ton	lb/hr	TPY
EK-37	F48	Bin 10 (LKD and off-spec waste)	3	12,000	0.226	0.68	1.36
EK-38	3-DC-49	Bin 10 Loading Spout	675 DSCFM		0.010 gr/DSCF	0.06	0.27
EK-46	3-DC-50	Bin 9 Loadout System w/weigh belt	675 DSCFM		0.010 gr/DSCF	0.06	0.27
EK-49	3-DC-51	Bin 11 Loadout System w/weigh belt	675 DSCFM		0.010 gr/DSCF	0.06	0.27
EK-60	3-DC-52	Bin 14 Loading Spout	675 DSCFM		0.010 gr/DSCF	0.06	0.27
EK-62	3-DC-53	Bin 15 Loading Spout	675 DSCFM		0.010 gr/DSCF	0.06	0.27
EK-111	3-DC-8	KVS LKD Bin	675 DSCFM		0.010 gr/DSCF	0.12	0.53
EK-113	F61	KVS LKD Bin Loadout Spout	3.1	8,000	0.556	1.72	2.22
EK-48 EK-59 EK-61 EK-76 EK-83 EK-51/64 3-SN-6	3-DC-1*	Main Lime Handling System Dust Collector	14,900 DSCFM		0.010 gr/DSCF	1.28	5.61
30-DC-1	30-DC-1	Maerz Kiln Dust Collector	37,028 DSCFM		0.022 gr/DSCF	Emissions included in EUG-14 Kilns	

EU	Point	Description	Process Rate		PM <sub>10</sub> Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY	lb/ton	lb/hr	TPY
30-DC-2	30-DC-2	Maerz Feed Dedusting Dust Collector	10,414 DSCFM		0.010 gr/DSCF	0.90	3.95
3-DC-5	3-DC-5	Maerz ROK Lime System Dust Collector	5,100 DSCFM		0.010 gr/DSCF	0.44	1.93
EK-133	30-DC-3	North Silo	675 DSCFM		0.010 gr/DSCF	0.06	0.27
EK-134	30-DC-3	South Silo	675 DSCFM		0.010 gr/DSCF	0.06	0.27
3-DG-14	3-DG-14	Maerz Feed Belt to Maerz Kiln Feed Bins (4-BC-12 to 3-DG-14)	60	520,485	0.0011	0.07	0.29
4-SN-3	4-SN-3	Maerz Feed Bins to Kiln Feed Screen (3-DG-14 to 4-SN-3)	60	520,485	7.40E-04	0.05	0.19
4-PILE-1	4-PILE-1	Kiln Feed Screen to Fines Bunker (4-SN-3 to 4-PILE-1)	10	26,024	0.072	0.72	0.94
4-SH-1	4-SH-1	Kiln Feed Screen to Bottom Weigh Hopper (4-SN-3 to 4-SH-1)	60	494,460	0.0011	0.07	0.27
4-SW-1	4-SW-1	Bottom Weigh Hopper to Maerz Skip Winch (4-SH-1 to 4-SW-1)	60	494,460	0.0011	0.07	0.27
<b>Totals</b>						<b>6.52</b>	<b>19.44</b>

\*The following sources are routed to Emission Point 3-DC-1: Bin 11 (EK-48), Bin 14 (EK-59), Bin 15 (EK-61), North Screen (EK-76), South Screen (EK-83), Bins 12 and 16 (EK-51/64), and Triple Deck Screen (3-SN-6).

Note: Due to the enclosed nature of the quicklime storage and loading operation, PM<sub>2.5</sub> emissions will be only a small fraction of the PM emissions (approximately 10 percent) and are not quantified here.

**EUG-5 Kiln Department - Grandfathered**

EU	Point	Description	Process Rate		PM <sub>10</sub> Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY	lb/ton	lb/hr	TPY
EK-1	F20	Tunnel Belt to Transfer Belt (4-BC-10 to 4-BC-11)	60	781,830	0.000046	0.01	0.02
EK-2	F21	Transfer Belt to KVS Feed Belt (4-BC-11 to 4-BC-3) Transfer Belt to Maerz Feed Belt (4-BC-11 to 4-BC-12)	60	781,830	0.000046	0.01	0.02
EK-8	F41	KVS Feed Belt to KVS Kiln (4-BC-3 to KVS Kiln)	25	234,056	0.0011	0.03	0.14
EK-13	F44	Kiln Feed Hood to Ash Ring Discharge Pile (KVS Cooler to 1-PILE-1)	0.1	520	0.000046	0.001	0.001
EK-15	F46	Vibrating Feeder to KVS Cooler Screw (1-VBF1,2,3,4 to 1-PC-1)	10	87,600	0.000046	0.001	0.002
EK-32	F36	Big Bin	16	138,060	0.0009	0.02	0.06
EK-33	F35	Crossover Belt (24")	16	210,240	0.000046	0.001	0.004
3-BN-1	3-BC-4	Lime Bin 1 to Belt (3-BN-1 to 3-BC-4)	6.7	55,757	0.00207	0.02	0.06
3-BC-4	3-CR-1	Belt to 2-Roll Crusher (3-BC-4 to 3-CR-1)	6.7	55,757	0.00110	0.01	0.03
3-BN-2	3-BC-3	Lime Bin 2 to Belt (3-BN-2 to 3-BC-3)	1.8	14,980	0.00207	0.004	0.02
3-BN-3	3-BC-4	Lime Bin 3 to Belt (3-BN-3 to 3-BC-4)	1.8	14,980	0.00207	0.004	0.02
3-BN-4	3-BC-3	Lime Bin 4 to Belt (3-BN-4 to 3-BC-3)	1.8	14,980	0.00207	0.004	0.02
3-BN-5	3-BC-4	Lime Bin 5 to Belt (3-BN-5 to 3-BC-4)	8.9	23,075	0.00207	0.02	0.02
3-BN-7	3-BC-4	Lime Bin 7 to Belt (3-BN-7 to 3-BC-6)	8.9	23,075	0.00207	0.02	0.02
3-BN-6	3-BC-3	Lime Bin 6 to Belt (3-BN-6 to 3-BC-3)	25	10,000	0.00207	0.05	0.01
3-BN-8	3-BC-3	Lime Bin 8 to Belt (3-BN-8 to 3-BC-3)	8.9	23,075	0.00207	0.02	0.02
3-BC-6	3-BC-6	Belt to Belt (3-BC-3 to 3-BC-6)	25	63,035	0.00110	0.03	0.03
EK-77	F73	Belt to Truck (3-BC-6 to Dolo Blend Loadout)	25	63,035	0.00207	0.05	0.07

EU	Point	Description	Process Rate		PM <sub>10</sub> Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY	lb/ton	lb/hr	TPY
EK-84	F105	2-Roll Crusher to Elevators (3-CR-1 to 3-BEL-9/3-BEL-5)	13	55,757	0.0024	0.03	0.07
3-SN-1	3-CR-1	Screen to Roll Crusher (3-SN-1 to 3-CR-1)	6.7	55,757	0.072	0.48	2.01
<b>Total</b>						<b>0.78</b>	<b>2.64</b>

Note: Due to the enclosed nature of the quicklime storage and loading operation, PM<sub>2.5</sub> emissions will be only a small fraction of the PM emissions (approximately 10 percent).

**EUG-6 Insignificant Activities**

EU	Point	Description	Process Rate		Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY	lb/ton	lb/hr	TPY
EK-145	F45	KVS exhaust gas discharge cleanout	2.6	2,000	0.052	0.14	0.05

EU	Point	Description	Volume (Gallons)	Throughput (Gallons)	VOC Emissions (TPY)
M-6	P-13	Diesel storage tank	12,000	175,000	0.01

**EUG-7 Hydrator Department**

EU	Point	Description	Process Rate		PM <sub>10</sub> Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY	lb/ton	lb/hr	TPY
6-DC-2	6-DC-2	Hydrate Feed Dust Collector	16	46,800	0.071	1.13	1.65
6-WS-1	6-WS-1	Hydrator Wet Scrubber	16	46,800	0.24	3.84	5.62
EH-15	6-DC-1*	Hydrate Product Bin/Loadout Dust Collector	16	46,800	0.025	0.40	0.59
EH-16							
EH-17							
EH-18							
EH-22							
<b>Total</b>						<b>5.37</b>	<b>7.85</b>

\*The following sources are routed to Emission Point 6-DC-1: Hydrate Bin – East (EH-15), Hydrate Bin – West (EH-16), Loading Spout – West Hydrate Bin (EH-17), Loading Spout – East Hydrate Bin (EH-18), Hydrate Bagger (EH-22).

Due to the high moisture content of hydrator operations and the use of dust collectors, PM<sub>2.5</sub> emissions will be only a small fraction of the PM emissions (approximately 10 percent).

**EUG-8 Stockpiles**

EU	Point	Description	Surface Area Acres	PM <sub>10</sub> Emission Factor TPY/Acre	PM <sub>10</sub> Emissions TPY
8-PILE-5	8-PILE-5	Large Stone pile	0.144	0.373	0.05
8-PILE-4	8-PILE-4	Med. Stone pile	0.168	0.373	0.06
8-PILE-3	8-PILE-3	Small Stone pile	0.220	0.373	0.08
7-PILE-1	7-PILE-1	PLS/Fines Feed pile	0.181	0.910	0.16
8-PILE-1	8-PILE-1	Crusher Screenings/Waste Stockpile	4.134	0.910	3.76
8-PILE-2	8-PILE-2	Temporary Surge Stockpile	0.056	0.910	0.05
4-PILE-1	4-PILE-1	Fines Bunker	0.008	0.910	0.01
5-PILE-1	5-PILE-1	Coal stockpile	0.807	0.513	0.41
5-PILE-2	5-PILE-2	Coke stockpile	0.419	0.513	0.21
<b>Total</b>					<b>4.81</b>

Based on the ratio of particle size multipliers in AP-42 (11/06), Section 13.2.4-3, PM<sub>2.5</sub> emissions from stockpiles are only a small fraction of the PM<sub>10</sub> emissions (approximately 15 percent).

**EUG-9 Unpaved Haul Roads**

EU	Point	Description	Short Term Emission Factor	Annual Emission Factor	Vehicle Miles/Year	PM <sub>10</sub> Emissions	
			lb/VMT	lb/VMT		lb/hr	TPY
R-1	-	Unpaved Quarry Haul Roads	1.88	1.30	12,206	2.70	8.00

Based on the ratio of particle size multipliers in AP-42 (11/06), Section 13.2.2-4, PM<sub>2.5</sub> emissions from stockpiles are only a small fraction of the PM<sub>10</sub> emissions (10 percent) and are not quantified here.

**EUG-11 Miscellaneous Fugitives**

EU	Point	Description	Process Rate		PM <sub>10</sub> Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY	lb/ton	lb/hr	TPY
M-1	F97	Crushed Limestone transfer to Railcar	14.0	120,000	0.0001	0.002	0.01
M-4	F100	Movement of ash ring to waste	0.06	581	0.0011	0.001	0.001
<b>Total</b>						<b>0.01</b>	<b>0.01</b>

**EUG-13 Solid Fuel Processing Equipment**

EU	Point	Description	Process Rate		PM <sub>10</sub> Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY	lb/ton	lb/hr	TPY
EK-88	F54	Solid Fuel Storage Pile (loader) to South Solid Fuel Hopper (5-PILE-1 to 5-HP-1)	4.6	40,000	9.09E-04	0.005	0.02
EK-89	F55	Solid Fuel Storage Pile (loader) to North Solid Fuel Hopper (5-PILE-2 to 5-HP-4)	4.6	40,000	9.09E-04	0.005	0.02
5-BC-2	5-BC-2	Belt to Belt (5-BC-4 to 5-BC-2)	4.6	40,000	9.09E-04	0.004	0.02
5-BC-5	5-BC-2	Belt to Belt (5-BC-5 to 5-BC-2)	4.6	40,000	9.09E-04	0.004	0.02
EK-90	F56	Belt to Belt (5-BC-2 to 5-BC-1)	9.1	80,000	9.09E-04	0.009	0.04
5-DC-1	5-DC-1	Solid Fuel Silo Dust Collector	-	-	0.010 gr/dscf	0.130	0.57
5-DC-2	5-DC-2	Grinding Circuit Process Filter	-	-	0.010 gr/dscf	0.520	2.28
5-BEL-1	5-BEL-1	Belt to Solid Fuel Elevator (5-BC-1 to 5-BEL-1)	9.1	80,000	9.09E-04	0.008	0.04
5-SF-1	5-SF-1	Solid Fuel Silo (North) to Solid Fuel Weigh Feeder (5-CS-1 to 5-SF-1)	3.7	30,958	9.09E-04	0.003	0.01
5-CS-2	5-CS-2	Solid Fuel Elevator to Solid Fuel Silo (South) (5-BEL-1 to 5-CS-2)	7	37,000	9.09E-04	0.006	0.02
5-CL-1	5-CL-1	Solid Fuel Weigh Feeder to KVS Solid Fuel Mill/Classifier (5-SF-1 to 5-CL-1)	3.7	30,958	9.09E-04	0.003	0.01

EU	Point	Description	Process Rate		PM <sub>10</sub> Emission Factor	PM <sub>10</sub> Emissions	
			TPH	TPY		lb/hr	TPY
5-CS-1	5-CS-1	Solid Fuel Elevator to Solid Fuel Silo (North) (5-BEL-1 to 5-CS-1)	3.7	30,958	9.09E-04	0.003	0.01
5-SF-3	5-CL-2	Solid Fuel Weigh Feeder to Maerz Solid Fuel Mill/Classifier (5-SF-3 to 5-CL-2)	7	37,000	9.09E-04	0.006	0.02
<b>Total</b>						<b>0.71</b>	<b>3.07</b>

Point	Description	Heat Input MMBTUH	Pollutant	Emission Factor lb/MMscf	Emissions	
					lb/hr	TPY
5-BR-1	Coal Mill Air Heater	5	PM <sub>10</sub>	7.6	0.04	0.18
			NO <sub>x</sub>	100	0.50	2.19
			CO	84	0.42	1.84
			VOC	5.5	0.03	0.14
			SO <sub>2</sub>	0.6	0.01	0.05

**EUG-14 Lime Kilns**

EU	Point	Description	Process Rate		Pollutant	Emission Factor	Emissions	
			TPH	TPY			lb/hr	TPY
EK-12	P-5	KVS Kiln (79 MMBTUH)	10	87,600	PM <sub>10</sub>	1.4 lb/ton lime	14.00	61.3
					NO <sub>2</sub>	0.7 lb/MMBTU	55.30	242.2
					CO	1.5 lb/ton lime	15.00	65.7
					SO <sub>2</sub>	1.2 lb/MMBTU	9.30	40.7
30-DC-1	30-DC-1	Maerz Kiln	27.8	210,240	PM <sub>10</sub>	see EUG-4	6.84	30.0
					NO <sub>x</sub>	2.20 lb/ton lime	61.16	231.3
					CO	4.22 lb/ton lime	105.50	443.6
					SO <sub>2</sub>	0.87 lb/ton lime	21.70	91.2

**EUG-15 Gasoline Storage Tank**

EU	Point	Description	Volume (Gallons)	Throughput (Gallons)	VOC Emissions TPY
M-6	P-13	Gasoline storage tank	2,000	50,000	1.0

**EUG-17 RICE Engines**

EU	Point	Description	Process Rate (hp)	Pollutant	Emission Factor (lb/hp-hr)	Emissions	
						lb/hr	TPY
1-STM-1	1-STM-1	KVS Kiln diesel drive engine	85	CO	0.007	0.57	0.14
				SO <sub>2</sub>	1.05E-05	0.001	0.001
				PM <sub>10</sub> /PM <sub>2.5</sub>	0.002	0.19	0.05
				NO <sub>x</sub>	3.10E-02	2.64	0.66
				VOC	0.003	0.21	0.05
1-STM-2	1-STM-2	Maerz Kiln emergency generator engine	74	CO	0.007	0.50	0.06
				SO <sub>2</sub>	1.05E-05	0.001	0.001
				PM <sub>10</sub> /PM <sub>2.5</sub>	0.002	0.16	0.02
				NO <sub>x</sub>	3.10E-02	2.29	0.29
				VOC	0.003	0.19	0.02

**Total Criteria Pollutant Emissions (TPY)**

Source	PM <sub>10</sub>	CO	NO <sub>x</sub>	SO <sub>2</sub>	VOC
	TPY	TPY	TPY	TPY	TPY
EUG-1: Crusher Dept.	9.00	--	--	--	--
EUG-2: Crusher (GF)	2.43	--	--	--	--
EUG-3: Fines	9.07	3.31	3.94	0.02	0.22
EUG-4: Kiln Dept.	19.44	--	--	--	--
EUG-5: Kiln Dept. (GF)	2.64	--	--	--	--
EUG-6: Insig. Act.	0.05	--	--	--	0.01
EUG-7: Hydrator	7.85	--	--	--	--
EUG-8: Stockpiles	4.81	--	--	--	--
EUG-9: Haul Roads	8.00	--	--	--	--
EUG-11: Misc. Fug.	0.01	--	--	--	--
EUG-13: Solid Fuel Processing	3.25	1.84	2.19	0.05	0.14
EUG-14A: KVS Kiln	61.32	65.70	242.21	40.73	--
EUG-14B: Maerz Kiln	29.94	443.61	231.26	91.24	--
EUG-15: Gasoline Tank	--	--	--	--	1.00
EUG-17: RICE	0.07	0.20	0.95	0.0003	0.08
<b>TOTALS</b>	<b>157.9</b>	<b>514.7</b>	<b>480.6</b>	<b>132.1</b>	<b>1.5</b>



**Significant Discharge Points**

<b>Point ID</b>	<b>Description</b>	<b>Height, feet</b>	<b>Diameter, Inches</b>	<b>Flow, ACFM</b>	<b>Temp, °F</b>
7-DC-1	PLS/Fines Plant Dust Collector	67	25	13,600	200
3-DC-1	Main Lime Handling System Dust Collector	106	18 x 35	16,500	90
P-5	KVS Kiln Scrubber	96	84	72,000	155
30-DC-3	North/South Silos Dust Collector	78	8	1,350	140
6-WS-1	Hydrator	60	26	6,000	198
6-DC-1	Hydrate Product Bin / Loadout Dust Collector	70	12	2,530	118
30-DC-1	Maerz Kiln Dust Collector	162.3	49	62,389	338
5-DC-1	Solid Fuel Silo Dust Collector	104.5	6	1,500	Ambient
5-DC-2	Grinding Circuit Process Filter	28	20	6,074	122
3-DC-5	Maerz ROK Lime System Dust Collector	54	16	5,100	Ambient
30-DC-2	Maerz Feed Dedusting Dust Collector	77.1	25	10,414	84

**SECTION V. INSIGNIFICANT ACTIVITIES**

The insignificant activities identified and justified on Part 1b of the forms in the application and duplicated below were confirmed by the initial operating permit inspection. Records were available to confirm the insignificance of the activities. Appropriate record-keeping of activities indicated below with “\*”, is specified in the Specific Conditions.

- Space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTUH heat input (commercial natural gas). The facility includes numerous space heaters.
- Gasoline, diesel fuel, aircraft fuel, and fuel oil handling facilities, equipment, and storage tanks except those subject to New Source Performance Standards and standards in OAC 252:100-37-15, 39-30, 39-41, and 39-48, or with a capacity greater than 400 gallons. The diesel tank is in this category.
- Welding and soldering operations utilizing less than 100 pounds of solder and 53 tons per year of electrodes. These are part of the facility maintenance activities, which are actually “trivial activities,” therefore recordkeeping will not be required in the Specific Conditions.
- Torch cutting and welding of under 200,000 tons of steel fabricated. Some minor torch cutting will occur, independent of the large plasma arc and gas torch cutting activities. These are part of the facility maintenance activities, which are actually “trivial activities,” therefore recordkeeping will not be required in the Specific Conditions.

- Surface coating operations which do not exceed a combined total usage of more than 60 gallons/month of coatings, thinners, and clean-up solvents at any one emissions unit. These are part of the facility maintenance activities, which are actually “trivial activities,” therefore recordkeeping will not be required in the Specific Conditions.
- Hand wiping and spraying of solvents from containers with less than 1 liter capacity used for spot cleaning and/or degreasing in ozone attainment areas. These are part of the facility maintenance activities, which are actually “trivial activities,” therefore recordkeeping will not be required in the Specific Conditions.
- \* Activities having the potential to emit no more than 5 TPY (actual) of any criteria pollutant: the equipment clean-out activities in EUG 6 are in this category.

## SECTION VI. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]  
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]  
This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the “Federal Regulations” section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]  
Subchapter 3 enumerates the primary and secondary ambient air quality standards and the significant deterioration increments. At this time, all of Oklahoma is in attainment of these standards.

OAC 252:100-5 (Registration, Emission Inventory, and Annual Fees) [Applicable]  
The owner or operator of any facility that is a source of air emissions shall submit a complete emission inventory annually on forms obtained from the Air Quality Division. An emission inventory was submitted and fees paid for previous years as required.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]  
Part 5 includes the general administrative requirements for part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the “Insignificant Activities” or “Trivial Activities” thresholds require prior notification to AQD and may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for single HAP that the EPA may establish by rule

Emission limitations for all the sources are taken from the permit application and previous permits, including the PSD permit for the Maerz Kiln.

OAC 252:100-9 (Excess Emissions Reporting Requirements) [Applicable]

Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Requests for mitigation, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]

Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter) [Applicable]

This subchapter limits emissions of particulate matter from fuel-burning units. Section 252:100-19-4 establishes allowable particulate matter emission rates from indirect fired fuel-burning units. Natural gas-fired heaters have particulate matter emissions well below the allowable rates in Appendix C.

Section 252:100-19-12 establishes allowable particulate matter emission rates from directly fired fuel-burning units and industrial processes (such as the lime kilns) via reference to Appendix G. For directly fired fuel-burning units and industrial processes, Appendix G specifies that the allowable total particulate matter emission rate for process weight rates greater than 30 tons per hour (60,000 lb/hr) is calculated using the formula:

$$E (\text{lb/hr}) = (55.00 P^{0.11}) - 40$$

Where: E = allowable total particulate matter emission rate in pounds per hour and  
P = process weight rate in tons per hour.

EU	Point	Description	Process Rate	Actual PM Emissions	Allowable PM Emissions
			TPH	lb/hr	lb/hr
<b>EUG-1</b>					
EC-3A	F1A	Haul Truck to Dump Hopper (Haul truck to 8-DH-1)	554	1.330	70.19
EC-3B	F1B	Primary Crusher to Belt Conveyor (8-CR-1 to 8-BC-1)	554	1.147	70.19
EC-4	F2	Belt to Belt (8-BC-1 to 8-BC-2)	554	1.147	70.19
EC-5	F3	Belt to Primary Screen (8-BC-2 to 8-SN-1)	989.8	2.049	77.46
EC-6	F4	Primary Screen to Belt (8-SN-1 to 8-BC-5) Primary Screen to Belt (8-SN-1 to 8-BC-10) Primary Screen to Belt (8-SN-1 to 8-BC-3A)	989.8	0.74	77.46
EC-9	F6	Belt to Secondary Crusher (8-BC-3A to 8-CR-2)	435.8	0.32	67.32
EC-10	F7	Secondary Crusher (8-CR-2 to 8-BC-3B)	435.8	0.36	67.32
EC-11	F8	Belt to belt (8-BC-3B to 8-BC-2)	435.8	0.91	67.32
EC-13	F10	Belt to PLS Feed Pile (8-BC-10 to 7-PILE-1)	125	0.26	53.55
EC-14	F11	Belt to Secondary Screen (8-BC-5 to 8-SN-2)	989.8	2.05	77.46
EC-15	F12	Secondary Screen to Belt (8-SN-2 to 8-BC-8) Secondary Screen to Belt (8-SN-2 to 8-BC-7) Secondary Screen to Belt (8-SN-2 to 8-BC-6)	989.8	0.74	77.46
EC-16	F13	Belt to Large Kiln Feed Pile (8-BC-8 to 8-PILE-5)	100	0.21	51.28
<b>EUG-2</b>					
EC-17	F14	Belt to Medium Kiln Feed Pile (8-BC-7 to 8-PILE-4)	125	0.26	53.55
EC-18	F15	Belt to Small Stone Pile (8-BC-6 to 8-PILE-3)	150	0.32	55.44
EC-19	F16	Loader from Temp Surge Pile to Dump Hopper (8-PILE-2 to 8-DH-1)	125	0.26	53.55
EC-20	F17	Loader to Crusher Screenings/Waste Pile (7-PILE-1 to 8-PILE-1)	125	1.54	53.55

EU	Point	Description	Process Rate	Actual PM Emissions	Allowable PM Emissions
			TPH	lb/hr	lb/hr
<b>EUG-3</b>					
Loader	7-BC-2	Loader to PLS Feed Hopper (Loader to 7-BC-2)	25	0.03	38.37
EF-4	F18	Feed Hopper Discharge to Belt (7-BC-2 to 7-BC-1)	25	0.001	38.37
EF-5	F19	Belt to PLS Feed Bin (7-BC-1 to 7-FB-1)	25	0.03	38.37
EF-12	7-DC-1	PLS/Fines Plant Dust Collector (classifier, flash furnace, bins)	25	2.02	38.37
EF-16					
EF-18					
EF-19					
EF-20					
EF-8					
<b>EUG-4</b>					
EK-37	F48	Bin 10 (LKD and Off-Spec Waste)	3	0.68	22.06
EK-38	3-DC-49	Bin 10 Loading Spout	3	0.06	22.06
EK-46	3-DC-50	Bin 9 Loadout System w/weigh belt	5.2	0.06	25.94
EK-49	3-DC-51	Bin 11 Loadout System w/weigh belt	5.2	0.06	25.94
EK-60	3-DC-52	Bin 14 Loading Spout	2.1	0.06	19.68
EK-62	3-DC-53	Bin 15 Loading Spout	2.1	0.06	19.68
EK-111	3-DC-8	KVS LKD Bin	3.1	0.12	22.29
EK-113	F61	KVS LKD Bin Loadout Spout	3.1	1.72	22.29
EK-48 EK-59 EK-61 EK-76 EK-83 EK-51/64 3-SN-6	3-DC-1	Main Lime Handling System Dust Collector	25	1.28	35.43
30-DC-1	30-DC-1	Maerz Kiln Dust Collector	25	6.84	35.43
30-DC-2	30-DC-2	Maerz Feed Dedusting Dust Collector	25	0.90	35.43
3-DC-5	3-DC-5	Maerz ROK Lime System Dust Collector	25	0.44	35.43
EK-133	30-DC-3	North Silo	3.1	0.06	22.29
EK-134	30-DC-3	South Silo	3.1	0.06	22.29
3-DG-14	3-DG-14	Maerz Feed Belt to Maerz Kiln Feed Bins (4-BC-12 to 3-DG-14)	60	0.07	46.29
4-SN-3	4-SN-3	Maerz Feed Bins to Kiln Feed Screen (3-DG-14 to 4-SN-3)	60	0.05	46.29

EU	Point	Description	Process Rate	Actual PM Emissions	Allowable PM Emissions
			TPH	lb/hr	lb/hr
4-PILE-1	4-PILE-1	Kiln Feed Screen to Fines Bunker (4-SN-3 to 4-PILE-1)	10	0.72	30.85
4-SH-1	4-SH-1	Kiln Feed Screen to Bottom Weigh Hopper (4-SN-3 to 4-SH-1)	60	0.07	46.29
4-SW-1	4-SW-1	Bottom Weigh Hopper to Maerz Skip Winch (4-SH-1 to 4-SW-1)	60	0.07	46.29
<b>EUG-5</b>					
EK-1	F20	Tunnel Belt to Transfer Belt (4-BC-10 to 4-BC-11)	60	0.01	46.29
EK-2	F21	Transfer Belt to KVS Feed Belt (4-BC-11 to 4-BC-3) Transfer Belt to Maerz Feed Belt (4-BC-11 to 4-BC-12)	60	0.01	46.29
EK-8	F41	KVS Feed Belt to KVS Kiln (4-BC-3 to KVS Kiln)	25	0.03	38.37
EK-13	F44	Kiln Feed Hood to Ash Ring Discharge Pile (KVS Cooler to 1-PILE-1)	0.1	0.01	2.69
EK-15	F46	Vibrating Feeder to KVS Cooler Screw (1-VBF-1,2,3,4 to 1-PC-1)	10	0.01	30.85
EK-32	F36	Big Bin	16	0.02	26.28
EK-33	F35	Crossover Belt (24")	16	0.01	26.28
3-BN-1	3-BC-4	Lime Bin 1 to Belt (3-BN-1 to 3-BC-4)	6.7	0.01	27.80
3-BC-4	3-CR-1	Belt to 2-Roll Crusher (3-BC-4 to 3-CR-1)	6.7	0.01	27.80
3-BN-2	3-BC-3	Lime Bin 2 to Belt (3-BN-2 to 3-BC-3)	1.8	0.01	18.67
3-BN-3	3-BC-4	Lime Bin 3 to Belt (3-BN-3 to 3-BC-4)	1.8	0.01	18.67
3-BN-4	3-BC-3	Lime Bin 4 to Belt (3-BN-4 to 3-BC-3)	1.8	0.01	18.67
3-BN-5	3-BC-4	Lime Bin 5 to Belt (3-BN-5 to 3-BC-4)	8.9	0.02	29.95
3-BN-7	3-BC-4	Lime Bin 7 to Belt (3-BN-7 to 3-BC-6)	8.9	0.02	29.95
3-BN-6	3-BC-3	Lime Bin 6 to Belt (3-BN-6 to 3-BC-3)	25	0.05	38.37
3-BN-8	3-BC-3	Lime Bin 8 to Belt (3-BN-8 to 3-BC-3)	8.9	0.02	29.95
3-BC-6	3-BC-6	Belt to Belt (3-BC-3 to 3-BC-6)	25	0.03	38.37
EK-77	F73	Belt to Truck (3-BC-6 to Dolo Blend Loadout)	25	0.05	38.37
EK-84	F105	2-Roll Crusher to Elevators (3-CR-1 to 3-BEL-9/3-BEL-5)	13	0.03	32.93
3-SN-1	3-CR-1	Screen to Roll Crusher (3-SN-1 to 3-CR-1)	6.7	0.48	27.80
<b>EUG-6</b>					
EK-145	F45	KVS Exhaust Gas Discharge Cleanout	2.6	0.14	21.10
<b>EUG-7</b>					
6-DC-2	6-DC-2	Hydrate Feed Dust Collector	16	1.13	34.61

EU	Point	Description	Process Rate	Actual PM Emissions	Allowable PM Emissions
			TPH	lb/hr	lb/hr
6-WS-1	6-WS-1	Hydrator Wet Scrubber	16	3.84	34.61
6-DC-1	6-DC-1	Hydrate Product Bin/Loadout Dust Collector	16	0.4	34.61
<b>EUG-11</b>					
M-1	F97	Crushed Limestone Transfer to Railcar	14.0	0.002	33.53
M-4	F100	Movement of Ash Ring to Waste	0.06	0.001	0.36
<b>EUG-13</b>					
EK-88	F54	Solid Fuel Storage Pile (loader) to South Solid Fuel Hopper (5-PILE-1 to 5-HP-1)	4.6	0.005	25.05
EK-89	F55	Solid Fuel Storage Pile (loader) to North Solid Fuel Hopper (5-PILE-2 to 5-HP-4)	4.6	0.005	25.05
5-BC-2	5-BC-2	Belt to Belt (5-BC-4 to 5-BC-2)	4.6	0.005	25.05
5-BC-5	5-BC-2	Belt to Belt (5-BC-5 to 5-BC-2)	4.6	0.005	25.05
EK-90	F56	Belt to Belt (5-BC-2 to 5-BC-1)	9.1	0.009	30.12
5-DC-1	5-DC-1	Solid Fuel Silo Dust Collector	7	0.13	28.13
5-DC-2	5-DC-2	Grinding Circuit Process Filter	7	0.52	28.13
5-BEL-1	5-BEL-1	Belt to Solid Fuel Elevator (5-BC-1 to 5-BEL-1)	9.1	0.009	30.12
5-SF-1	5-SF-1	Solid Fuel Silo (North) to Solid Fuel Weigh Feeder (5-CS-1 to 5-SF-1)	3.7	0.004	23.51
5-CS-2	5-CS-2	Solid Fuel Elevator to Solid Fuel Silo (South) (5-BEL-1 to 5-CS-2)	7	0.007	28.13
5-CL-1	5-CL-1	Solid Fuel Weigh Feeder to KVS Solid Fuel Mill/Classifier (5-SF-1 to 5-CL-1)	3.7	0.004	23.51
5-CS-1	5-CS-1	Solid Fuel Elevator to Solid Fuel Silo (North) (5-BEL-1 to 5-CS-1)	3.7	0.004	23.51
5-SF-3	5-CL-2	Solid Fuel Weigh Feeder to Maerz Solid Fuel Mill/Classifier (5-SF-3 to 5-CL-2)	7	0.007	28.13
<b>EUG-14</b>					
EK-12	P-5	KVS Kiln	10	14.00	30.85
30-DC-1	30-DC-1	Maerz Kiln	27.8	6.84	39.19

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]  
 No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. Any unit which is subject to an opacity limit under NSPS is not subject to Subchapter 25.

OAC 252:100-29 (Fugitive Dust) [Applicable]  
No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. Under normal operating conditions, the facility will not interfere with the maintenance of air quality standards. U.S. Lime will employ best management practices to minimize particulate emissions from roads and other industrial activities.

OAC 252:100-31 (Sulfur Compounds) [Applicable]  
Part 5 limits sulfur dioxide emissions from new equipment (constructed after July 1, 1972). For gaseous fuels the stack emissions limit is 0.2 lb/MMBTU heat input, three-hour average. AP-42 (3/98) Table 1.4-2 lists SO<sub>2</sub> emissions as 0.6 lb/MMSCF or about 0.0006 lb/MMBTU, which is in compliance with the 0.2 lb/MMBTU limitation. For solid fuels, the limit is 1.2 lb SO<sub>2</sub>/MMBTU heat input, three-hour average. For solid fuels, the limit is 1.2 lb SO<sub>2</sub>/MMBTU heat input, three-hour average. The Vertical Kiln SO<sub>2</sub> BACT emissions limit (0.868 lb/ton) corresponds to approximately 0.22 lb/MMBTU, well below the 1.2 lb/MMBTU limit. The permit also requires that all fuels be tested or have a certified analysis showing the sulfur content.

OAC 252:100-33 (Nitrogen Oxides) [Applicable]  
This subchapter affects NO<sub>x</sub> emissions from new fuel-burning equipment with a rated heat input of 50 MMBTUH or more, thus NO<sub>x</sub> emissions are limited to 0.7 lb/MMBTU, expressed as NO<sub>2</sub>.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]  
None of the following affected processes are located at this facility: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit, or petroleum catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds) [Part 7 Applicable]  
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. The vapor pressure of diesel is less than 1.5 psia, therefore, Part 3 does not apply.  
Part 5 limits the VOC content of coating used in coating lines or operations. This facility will not normally conduct coating or painting operations except for routine maintenance of the facility and equipment, which is exempt.  
Part 7 requires fuel-burning equipment to be operated and maintained so as to minimize VOC emissions. Temperature and available air must be sufficient to provide essentially complete combustion. The kilns and dryer are designed to provide essentially complete combustion of organic materials.



OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]  
 This subchapter regulates TAC that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]  
 This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. Periodic testing requirements are in the Specific Conditions for the new Vertical Kiln and the older KVS kiln. Testing is required every 5 years for pollutants whose emissions limits are between 100 and 250 TPY, and every 2 years for pollutants whose emissions are between 250 and 500 TPY. .

**The following Oklahoma Air Pollution Control Rules are not applicable to this facility:**

OAC 252:100-8 Part 9	Major Sources Affecting Nonattainment Areas	not in area category
OAC 252:100-15	Mobile Sources	not in source category
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Grain Elevators	not in source category
OAC 252:100-29-2	Fugitive Dust/Nonattainment Areas	not in area category
OAC 252:100-39	Nonattainment Areas	not in area category
OAC 252:100-47	Landfills	not in source category

**SECTION VII. FEDERAL REGULATIONS**

PSD, 40 CFR Part 52

[Not Applicable]

Total facility emissions are greater than the level of significance of 100 TPY of any single regulated pollutant; the facility is one of the 26 specific industries with a threshold of 100 TPY. Any future increases must be evaluated in the context of PSD significance levels: 40 TPY NO<sub>x</sub>, 100 TPY CO, 40 TPY SO<sub>2</sub>, 15 TPY PM<sub>10</sub>, 10 TPY PM<sub>2.5</sub>, 40 TPY VOC, 10 TPY total reduced sulfur (TRS), 75,000 TPY GHG, or 0.6 TPY lead.

NSPS, 40 CFR Part 60

[Subparts OOO and IIII Applicable]

Subpart Y (Coal Preparation Plants) affects equipment used to crush coal, separate it from refuse, or convey coal which commenced construction, reconstruction, or modification after October 24, 1974. Subpart Y affects the following facilities in coal process plants which process more than 200 TPD: thermal dryers, pneumatic coal cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems. Subpart Y only applies to affected facilities in coal preparation plants that process more than 200 tons of coal per day. The coal requirements for the KVS and Vertical Kilns combined are less than 200 tons per day, therefore, Subpart Y is not applicable to the Marble City facility.

Subpart HH (Lime Manufacturing) affects rotary kilns which commenced construction, reconstruction, or modification after May 3, 1977. The KVS kiln was constructed prior to the applicability date, and the modification (conversion to coal fuel) also predated Subpart HH. The Vertical Kiln (Maerz kiln) does not meet the definition of “rotary kiln” and is, therefore, not subject to Subpart HH.

Subpart OOO (Nonmetallic Mineral Processing Plants) is applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or rail car loading station. Subpart OOO is applicable to the equipment at the facility which was manufactured after effective date of August 31, 1983. New Subpart OOO standards were promulgated on April 28, 2009, and apply to affected facilities that commence construction, modification, or reconstruction on or after April 22, 2008. For this new equipment, Subpart OOO specifies limitations of 0.014 gr/DSCF for stack emissions from affected capture systems and 7% opacity for dry control devices on individual storage bins. There were no new affected facilities (individual storage bins) installed that are subject to this 7% opacity standard.

The opacity from new crushers shall not exceed 12% and the opacity from other new affected facilities (including screens, bucket elevators, conveyor transfer points except transfer to stockpiles, storage bins, and enclosed truck/railcar loading operations) shall not exceed 7% opacity.

Subpart IIII (Stationary Compression Ignition Internal Combustion Engines) affects stationary compression ignition (CI) internal combustion engines (ICE) that were ordered, modified, or reconstructed after July 11, 2005. Since the diesel drive engine for the KVS Kiln pre-dates Subpart IIII, Subpart IIII does not apply to the KVS Kiln engine. The Maerz Kiln emergency ICE is subject to the requirements of Subpart IIII.

NESHAP, 40 CFR Part 61

[Not Applicable]

There are no emissions of any of the pollutants subject to 40 CFR 61.

NESHAP, 40 CFR Part 63

[Subparts ZZZZ and CCCCCC Applicable]

Subpart AAAAA (Lime Manufacturing Plants) only affects major sources of HAP. Stack testing has documented that the Marble City facility is an area source of HAPs.

Subpart ZZZZ (Reciprocating Internal Combustion Engines (RICE)). Owners and operators of existing stationary RICE located at an area source of HAP emissions must meet the requirements of Subpart ZZZZ. The existing diesel engines are subject to Subpart ZZZZ.

Subpart CCCCCC (Gasoline Dispensing Facilities), Owners and operators of gasoline dispensing facilities (GDF) located at area sources of HAP must meet certain work practice standards for the storage and dispensing of gasoline into motor vehicles, non-road vehicles, lawn equipment, test engines, generators, pumps, and other gasoline-fueled engines and equipment. The 2000-gallon gasoline tank located at U.S. Lime and the associated dispensing of gasoline (EUG 15) are subject to this NESHAP. Since the monthly gasoline throughput is less than 10,000 gallons per month, only the Section 63.11116 (proper housekeeping) standards apply.

Compliance Assurance Monitoring, 40 CFR Part 64

[Applicable]

Compliance Assurance Monitoring (CAM) applies to any pollutant specific emission unit at a major source that is required to obtain a Title V permit, if it meets all of the following criteria:

- ▲ It is subject to an emission limit or standard for an applicable regulated air pollutant.
- ▲ It uses a control device to achieve compliance with the applicable emission limit or standard.
- ▲ It has potential emissions, prior to the control device, of the applicable regulated air pollutant of greater than 100 TPY.

The KVS kiln is subject to CAM for PM<sub>10</sub>. CAM for the KVS Kiln is as was accepted for Permit No. 99-125-TV. CAM provisions for the kilns have been incorporated into the permit Specific Conditions. All of the other emissions units (solids handling crushers, conveyors, etc.) have potential emissions below 100 TPY.

The KVS kiln uses an open-tower spray wet scrubber. The efficiency of wet scrubbers correlates to pressure differential, therefore, pressure differential will be monitored. An additional step will be daily checks of visible emissions. Although the kiln is not subject to NESHAP Subpart AAAAA, it will use the limit of 15% opacity as the indicator point.

The Vertical Kiln is subject to CAM for SO<sub>2</sub> and PM<sub>10</sub> emissions which are controlled by a baghouse. The kiln does not use an active control device to reduce NO<sub>x</sub> and CO emissions, therefore these pollutants are not subject to CAM; SO<sub>2</sub> emissions are controlled by dry scrubbing of the SO<sub>2</sub> with the lime dust present in the kiln and in the baghouse. Proper functioning of the baghouse will be shown by pressure differential across the baghouse. An additional confirmation will be daily checks of opacity from the unit.

**CAM Plan for KVS Kiln (EU EK-12) – PM Control**

**Monitoring Requirements:** At least four recordings of representative monitoring data (scrubber pump amps) will be recorded and averaged for each 1-hour period (per 40 CFR 64.3(b)(4)(ii)). In addition, daily opacity readings will be conducted and the pressure drop across the scrubber will be recorded daily.

**Control Technology:** Wet Scrubber.

**Monitoring Approach**

**Indicator 1:** Opacity from the wet scrubber exhausts to kiln stack.

**Indicator 2:** Pressure differential over wet scrubber.

**Indicator 3:** Scrubber pump electric power consumption.

**Measurement Approach**

**Indicator 1 (Opacity):** Observations will be made in accordance with EPA Method 9, and the opacity shall be recorded.

**Indicator 1 Range:** 0-20% Opacity, except for one six-minute period per hour not to exceed 60% opacity.

**Indicator 2 (Pressure Drop):** A differential pressure transducer will be utilized to measure the pressure drop across the wet scrubber.

**Indicator 2 Range:** An excursion is defined as a daily pressure differential below 6.7 inches water column.

**Indicator 3 (Pump Current):** An ammeter will be utilized to measure the electric power consumption of the wet scrubber circulation pump.

**Indicator 3 Range:** An excursion is defined as an hourly average pump power usage below 122 amps.

**Performance Criteria****Data Representativeness**

Indicator 1: Excess opacity is indicative of a malfunctioning scrubber. Under proper scrubber operating conditions, opacity in the exhaust stream will be below 20%.

Indicator 2: The differential pressure transducer monitors the static pressures upstream and downstream of the wet scrubber. A decrease in differential pressure indicates the loss of gas or liquid flow, or poor scrubbing liquid distribution. Wet scrubber efficiency correlates to pressure differential. A differential pressure above 6.7 inches of water

indicates that the exhaust stream is adequately contacting the scrubbing media to ensure control of emissions.

Indicator 3: An ammeter for the scrubber circulating pump will measure current at the pump connection. The scrubber circulating pump will only draw amps if it is “working” by moving scrubber liquid. Therefore, an ammeter reading above 122 amps indicates that the scrubber liquid is properly circulating.

**Verification of Operational Status:** Records of the opacity observations, scrubber differential pressure, and circulating pump power consumption will be kept onsite and made available for inspection.

### QA/QC Practices

Indicator 1: U.S. Lime personnel will follow EPA Method 9 for quality assurance and control of the opacity observations.

Indicator 2: U.S. Lime personnel compare the pressure differential readings from the pressure transducer to pressure readings from a U-tube manometer once per year to ensure that pressure readings are within 1 inch of water.

Indicator 3: The ammeter shall be calibrated at least annually in accordance with manufacturer specifications.

### Monitoring Frequency

Indicator 1: The scrubber exhaust will be observed monthly for the presence of opacity. If opacity is observed, opacity will be recorded for one six-minute periods.

Indicator 2: The pressure differential will be monitored daily.

Indicator 3: The scrubber pump ammeter reading will be recorded at least four times per hour and averaged either in a log or electronic record.

### Data Averaging Period

Indicator 1: 6-minute average

Indicator 2: Daily average

Indicator 3: 1-hour average

**Rationale for Selection of Performance Indicator:** Observations for opacity can provide a general indication of the effectiveness of the scrubber. Scrubber pressure differential and power consumption readings will further demonstrate that the scrubber is operating as designed.

**Rationale for Selection of Indicator Level:** Opacity <20% indicates the wet scrubber is operating properly. A differential pressure above 6.7 inches of water indicates that the exhaust stream is adequately contacting the scrubbing media to ensure control of emissions. Stack testing conducted in August 2007 demonstrated that KVS kiln PM emissions were less than the permit limit (38.22 lb/hr) at a scrubber amperage of 144 amps. The August 2007 test report and kiln operating data is included in Appendix A. Since the filterable PM test results (32.18 lb/hr average) were greater than 15 percent less than the emission limit (38.22 lb/hr), U.S. Lime selected an amperage excursion level (122 amps) 15 percent below the level measured during the successful test (144 amps). Readings above 122 amps indicates that the scrubber liquid is properly circulating and PM emissions are maintained less than the 38.22 lb/hr limit.

### **CAM Plan for Vertical Kiln (EU 30-DC-1) – PM<sub>10</sub> / PM<sub>2.5</sub> and SO<sub>2</sub> Control**

**Monitoring Requirements:** Pressure differential (PD) and visible emissions (VE). At least one PD recording of representative monitoring data per 24-hour period. (40 CFR 64.3(b)(4)(iii))

**Control Technology:** Pulse-jet system fabric filter baghouse.

### **Monitoring Approach**

**Indicator:** PD outside the indicator range, or VE from the baghouse exhaust when the kiln is operating.

### **Measurement Approach:**

- PD through the baghouse will be continuously measured (in inches w.c.) using a differential pressure gauge and 24-hour average measurements (midnight to midnight) recorded in the process data historian while the kiln is operating.
- VE observations will be conducted daily for 6 minutes following EPA Method 22 and the presence or absence of VE shall be recorded. If VEs are identified, a Method 9 opacity reading will be conducted and the results recorded.

**Indicator Range:** 2.0 to 7.0 inches of water column (inches w.c.) for PD. A 24-hr average PD measurement outside this range will be considered an excursion and will trigger corrective action procedures. (see Justification subsection for discussion of corrective action procedures) The presence of VE and opacity greater than 15%. If Method 9 observations are conducted, an opacity greater than 15% (except for one six-minute period per hour not to exceed 60% opacity) will be considered an excursion and will trigger corrective action procedures.

### **Performance Criteria**

### **Data Representativeness:**

- PD across the baghouse will be monitored continuously and reduced to 24-hr averages. The accuracy of the differential pressure device is  $\pm 0.3$  inches w.c.

- VE (and opacity if necessary) will be observed at the exit of the baghouse exhaust stack once per day for 6 minutes following EPA Method 22 (or Method 9, if triggered).

**Verification of Operational Status:** Records of PD measurements and VE (or opacity) observations will be kept onsite. Continuous PD measurements will be available on-site. Historical daily averages will be maintained by corporate and made available for inspection.

**QA/QC Practices:** Differential pressure devices will be calibrated annually, and pressure checked daily for plugging. VE observers will be trained on proper VE observation methods and at least one certified Method 9 observer will be available and certified annually.

**Monitoring Frequency:** The baghouse PD will be measured continuously, and valid data reduced to 24-hr averages for comparison to the indicator range. The baghouse exhaust will be observed daily, or as weather permits, for one six-minute period for the presence of VE. If VE is observed, opacity will be observed using Method 9 and recorded.

**Data Averaging Period:** 24-hour average for PD; 6-minute average for VE or opacity

### **Justification**

**Background:** The kiln is equipped with a fabric filter baghouse to control emissions of PM<sub>10</sub> and PM<sub>2.5</sub>. In addition, SO<sub>2</sub> contained in kiln exhaust gases is “dry scrubbed” as it passes through the lime dust that accumulates on filter media inside the baghouse. This dry scrubbing converts SO<sub>2</sub> to calcium sulfate (CaSO<sub>4</sub>), reducing SO<sub>2</sub> emissions.

### **Rationale for Selection of Performance Indicator:**

- Pressure Differential. The characteristic differential pressure is dependent on the baghouse design, including the type of cleaning mechanism and bag type. For a pulse jet type baghouse, when the fabric filter bags are newly installed, the filter cake builds up on the bags and the pressure differential increases steadily. As pulses are applied to clean the bags, the pressure differential will change. Significant changes in pressure differential can occur with the operation of a baghouse. Increases or decreases in pressure differential are not always indicative of lower filter efficiency or improved filter efficiency. Although a lower PD is not always indicative of filter efficiency, a lowered PD can be a filter bag leak or pin holes. Therefore, each scenario must be evaluated on a case-by-case basis. A high PD is often indicative of higher filter cake and improved filtering efficiency.
- Opacity or VE. As is the case for nearly all dry PM controls, VE or opacity is an indicator of control device performance. An increase in opacity or visible emissions generally corresponds to a decrease in fabric filter performance, process changes, changes in baghouse efficiency, or bag leaks.

### **Rationale for Selection of Indicator Level:**

- Pressure Differential. Initial stack testing on the Vertical Kiln was conducted April 2, 2020. Test results are included in Appendix B. Test results for total PM<sub>10</sub> and total PM<sub>2.5</sub> (filterable and condensable) were 3.4 lb/hr and 3.3 lb/hr, respectively (each about 50

percent of the permit limits). Average PD measurements during the stack test ranged from 3.48 to 3.54 in w.c. It is important to note that the baghouse is effective on filterable PM<sub>10</sub> and PM<sub>2.5</sub> (FPM) and FPM test results were very low. FPM grain loadings were less than 0.002 gr/dscf and mass emissions equal to or less than 0.50 lb/hr (less than 10 percent of the limit). The superior baghouse performance on filterable PM indicates that PD could vary widely while still maintaining emissions below the permit limits. There are many variables that can affect PD such as kiln process changes, cleaning system adjustments, age of bags, stone size, humidity, ambient temperature, startup/shutdown, etc. PD excursions outside indicator range will have to be evaluated on a case-by-case basis and determined if corrective action is necessary. Many types of scenarios may not warrant corrective action such as equipment shutdown or kiln process adjustments that have no effect on bag filter effectiveness. However, each situation outside the indicator range will be evaluated. Based on baghouse manufacturer recommendations and the cyclical nature of the regenerative kiln processes, a 2.0 to 7.0 inch w.c. range is recommended as an operational range for the baghouse. A 24-hr average PD measurement outside the indicator range will trigger a corrective action procedure. Depending on the scenario, corrective action procedures may include but are not limited to:

- ▶ A review of process parameters such as kiln being down, startup, etc.
- ▶ Visual inspection of the opacity.
- ▶ Visual inspection of the baghouse structure, cleaning mechanism, and hopper discharge mechanism,
- ▶ Internal inspection of the baghouse compartments and filter media (bags) to identify any holes, tears, or dislodged bags
- ▶ Injection of dye to assist in isolating the bag or structure leak

U.S. Lime also has a facility-wide inspection/maintenance (I/M) program that includes periodic inspections of the baghouse and its critical components. Regular replacement of bags due to wear and tear is part of this I/M program.

- VE and Opacity. Zero opacity was measured during the April 2 test, and daily observations conducted during kiln operation typically do not detect any VE. U.S. Lime will continue to conduct daily VE observations in addition to PD monitoring to ensure the baghouse is operating properly. If VE is detected, a Method 9 opacity reading will be conducted.

Chemical Accident Prevention Provisions, 40 CFR Part 68

[Not Applicable]

This facility does not store any of the listed substances above the applicable threshold limits. Therefore, the Accidental Release Prevention provisions are not applicable to this facility. More information on this federal program is available on the web page: [www.epa.gov/rmp](http://www.epa.gov/rmp).

Stratospheric Ozone Protection, 40 CFR Part 82

[Subpart A and F Applicable]

These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations



which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).

Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.

Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

This facility does not utilize any Class I & II substances.

## SECTION VIII. COMPLIANCE

### Tier Classification and Public Review

This application has been determined to be Tier II based on being the request for a renewal Part 70 operating permit.

The applicant published the “Notice of Filing a Tier II Application” on April 10, 2020, in the *Sequoyah County Times*, a semi-weekly newspaper in Sequoyah County. The notice stated that the application was available for review at the Air Quality Division main office. This facility is located within 50 miles of the Oklahoma-Arkansas state border. The state of Arkansas will be notified of the availability of the draft permit.

The applicant will publish the “Notice of Tier II Draft Permit” in the *Sequoyah County Times*.

This permit will be submitted to EPA Region 6 for a 45-day review.

Information on all permits is available for review by the public in the Air Quality Section of DEQ Web Page: <http://www.deq.ok.gov>.

**Stack Testing**

Testing of emissions from the new Vertical Kiln firing natural gas was conducted on April 2, 2020. The kiln was operating at a rate of 25 TPH, or 90% of capacity (27.8 TPH lime), during testing. Results of the testing on natural gas are shown in the following table:

<b>Pollutant</b>	<b>Permit Limit lb/hr</b>	<b>Test Result lb/hr</b>
PM <sub>10</sub>	6.84	3.4
CO	105.0	2.4
NO <sub>x</sub>	55.00	3.4
SO <sub>2</sub>	21.70	5.9

**Inspection**

The facility was last inspected on June 12, 2019, by Mr. Corey Gum of the DEQ Tulsa Regional Office. It was verified that the facility existed as described in the permit application, and that required air pollution controls (baghouses and wet scrubbers) were present. No issues of non-compliance were determined.

**Fee Paid**

Title V permit renewal fee of \$7,500.

**SECTION IX. SUMMARY**

The facility was constructed and is operating as described in the permit application. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance or enforcement issues which would affect issuance of this permit. Issuance of the permit is recommended, contingent on public and EPA review.

**DRAFT**

**PERMIT TO OPERATE  
AIR POLLUTION CONTROL FACILITY  
SPECIFIC CONDITIONS**

**U. S. Lime Company - St. Clair  
Marble City Plant**

**Permit No. 2020-0158-TVR3**

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on March 11, 2020. The Evaluation Memorandum, dated October 28, 2020, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein:

1. Emission limitations and points of emissions: [OAC 252:100-8-6(a)]

**A. EUG-1            Crusher Department**

<b>EU</b>	<b>Point</b>	<b>Description</b>	<b>Opacity Limit</b>
EC-3B	F1B	Primary Crusher to Belt Conveyor (8-CR-1 to 8-BC-1)	15%
EC-4	F2	Belt to Belt (8-BC-1 to 8-BC-2)	10%
EC-5	F3	Belt to Primary Screen (8-BC-2 to 8-SN-1)	10%
EC-6	F4	Primary Screen to Belt (8-SN-1 to 8-BC-5) Primary Screen to Belt (8-SN-1 to 8-BC-10) Primary Screen to Belt (8-SN-1 to 8-BC-3A)	10%
EC-9	F6	Belt to Secondary Crusher (8-BC-3A to 8-CR-2)	7%
EC-10	F7	Secondary Crusher (8-CR-2 to 8-BC-3B)	7%
EC-11	F8	Belt to belt (8-BC-3B to 8-BC-2)	7%
EC-12	F9	Belt to PLS Feed Pile (8-BC-10 to 7-PILE-1)	10%
EC-13	F10	Belt to Secondary Screen (8-BC-5 to 8-SN-2)	10%
EC-14	F11	Secondary Screen to Belt (8-SN-2 to 8-BC-8)	10%
EC-15	F12	Belt to belt (8-BC-3B to 8-BC-2) Secondary Screen to Belt (8-SN-2 to 8-BC-7) Secondary Screen to Belt (8-SN-2 to 8-BC-6)	10%
EC-16	F13	Belt to Large Kiln Feed Pile (8-BC-8 to 8-PILE-5)	10%

1. The equipment in EUG-1 is subject to NSPS Subpart OOO and shall comply with all applicable requirements. Truck dumping of non-metallic minerals is not subject to the opacity standards of Subpart OOO. [40 CFR § 60.670-676]
2. Wet suppression or foam suppression shall be used at or upstream of crushers and screens when needed to limit the opacity of fugitive discharges [40 CFR § 60.672(b)]

3. The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control emissions from the affected facility must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expediently as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under §60.676(b). [40 CFR § 60.674(b)]
4. The opacity of discharges from screens and conveyor transfer points constructed before April 22, 2008 shall not exceed 10% opacity. [40 CFR § 60.672(b)]
5. The opacity of discharges from screens and conveyor transfer points constructed after April 22, 2008 shall not exceed 7% opacity. [40 CFR § 60.672(b)]
6. The opacity of discharges from crushers constructed before April 22, 2008 shall not exceed 15% opacity. [40 CFR § 60.672(b)]
7. The opacity of discharges from crushers constructed after April 22, 2008 shall not exceed 12% opacity. [40 CFR § 60.672(b)]
8. Either no visible fugitive emissions shall be discharged from any building enclosing an affected facility, or opacity shall not exceed 10% from any pre-2008 affected facility and 7% from any post-2008 affected facility per 40 CFR 60.672(b). [40 CFR 60.672(e)(1)]
9. Reports shall be submitted as specified. [40 CFR § 60.676]

**B. EUG-2            Crusher Department – Grandfathered**

EU	Point	Description	Opacity
EC-17	F14	Belt to Medium Kiln Feed Pile (8-BC-7 to 8-PILE-4)	20%
EC-18	F15	Belt to Small Stone Pile (8-BC-6 to 8-PILE-3)	20%
EC-19	F16	Loader from Temp Surge Pile to Dump Hopper (8-PILE-2 to 8-DH-1)	20%
EC-20	F17	Loader to Crusher Screenings/Waste Pile (7-PILE-1 to 8-PILE-1)	20%

1. Compliance with opacity limitations shall be demonstrated as follows: [OAC 252:100-8-6(a)]
  - a. The permittee shall conduct Method 9 or Method 22 visual observations of emissions from each point listed above at least once per week during which a unit operates. In no case shall the observation period be less than six minutes in duration. If visible emissions are observed for six minutes in duration for any observation period and such emissions are not the result of a malfunction, then the permittee shall conduct, for the identified points, within 24 hours, a visual observation of emissions, in accordance with 40 CFR Part 60, Appendix A, Method 9.

- b. When four consecutive weekly visible emission observations or Method 9 observations show no visible emissions, or no emissions of a shade or density greater than twenty (20) percent equivalent opacity, respectively, the frequency may be reduced to monthly visual observations, as above. Upon any showing of non-compliance the observation frequency shall revert to weekly.
- c. If a Method 9 observation exceeds 20% opacity the permittee shall conduct at least two additional Method 9 observations within the next 24-hours.
- d. If more than one six-minute Method 9 observation exceeds 20% opacity in any consecutive 60 minutes; or more than three six-minute Method 9 observations in any consecutive 24 hours exceeds 20% opacity; or if any six-minute Method 9 observation exceeds 60% opacity; the owner or operator shall comply with the provisions for excess emissions during start-up, shut-down, and malfunction of air pollution control equipment.

**C. EUG-3 Fines Department**

EU	Unit ID	Point	PM <sub>10</sub>		NO <sub>x</sub>		CO		VOC		SO <sub>2</sub>	
			lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Loader	Loader to PLS Feed Hopper (Loader to 7-BC-2)	7-BC-2	0.03	0.11	--	--	--	--	--	--	--	--
EF-4	Feed Hopper Discharge to Belt (7-BC-2 to 7-BC-1)	F18	0.01	0.01	--	--	--	--	--	--	--	--
EF-5	Belt to PLS Feed Bin (7-BC-1 to 7-FB-1)	F19	0.03	0.11	--	--	--	--	--	--	--	--
EF-12	PLS/Fines Plant Dust Collector (classifier, flash furnace, bins)	7-DC-1	2.02	8.85	0.90	3.94	0.76	3.31	0.05	0.22	0.01	0.03
EF-16												
EF-18												
EF-19												
EF-20												
EF-8												

1. The equipment in this EUG is subject to NSPS Subpart OOO and shall comply with all applicable requirements. [40 CFR § 60.670-676]
2. Either no visible fugitive emissions shall be discharged from any building enclosing an affected facility, or opacity shall not exceed 10% from any pre-2008 affected facility and 7% from any post-2008 affected facility per 40 CFR § 60.672(b). [40 CFR § 60.672(e)(1)]
3. Reports shall be submitted as specified. [40 CFR § 60.676]

4. Compliance with emissions limitations shall be demonstrated as follows:  
 [OAC 252:100-43]
- a. The permittee shall conduct Method 9 or Method 22 visual observations of emissions from each point listed above at least once per week during which a unit operates. In no case shall the observation period be less than six minutes in duration. If visible emissions are observed for six minutes in duration for any observation period and such emissions are not the result of a malfunction, then the permittee shall conduct, for the identified points, within 24 hours, a visual observation of emissions, in accordance with 40 CFR Part 60, Appendix A, Method 9.
  - b. When four consecutive weekly visible emission observations or Method 9 observations show no visible emissions, or no emissions of a shade or density greater than twenty (20) percent equivalent opacity, respectively, the frequency may be reduced to monthly visual observations, as above. Upon any showing of non-compliance the observation frequency shall revert to weekly.
  - c. If a Method 9 observation exceeds the specified opacity limit for each point in EUG-3, the permittee shall conduct at least two additional Method 9 observations within the next 24-hours.
  - d. If more than one six-minute Method 9 observation exceeds 20% opacity in any consecutive 60 minutes; or more than three six-minute Method 9 observations in any consecutive 24 hours exceeds 20% opacity; or if any six-minute Method 9 observation exceeds 60% opacity; the owner or operator shall comply with the provisions for excess emissions during start-up, shut-down, and malfunction of air pollution control equipment as required in OAC 252:100-9.

**D. EUG-4                      Kiln Department – Non-Grandfathered Equipment, Non-NSPS**

EU	Point	Description	PM <sub>10</sub> Emissions		Opacity Limit
			lb/hr	TPY	
EK-37	F48	Bin 10 (LKD and Off-spec waste)	0.68	1.36	20%
EK-38	3-DC-49	Bin 10 Loading Spout	0.06	0.27	20%
EK-46	3-DC-50	Bin 9 Loadout System w/weigh belt	0.06	0.27	20%
EK-49	3-DC-51	Bin 11 Loadout System w/weigh belt	0.06	0.27	20%
EK-60	3-DC-52	Bin 14 Loading Spout	0.06	0.27	20%
EK-62	3-DC-53	Bin 15 Loading Spout	0.06	0.27	20%
EK-111	3-DC-8	KVS LKD Bin	0.12	0.53	20%
EK-113	F61	KVS LKD Bin Loadout Spout	1.72	2.22	20%
EK-133	30-DC-3	North Silo	0.06	0.27	20%
EK-134	30-DC-3	South Silo	0.06	0.27	20%

1. The opacity of discharges from the above equipment shall not exceed the opacity limits shown above. [OAC 252:100-25]
2. Compliance with opacity limitations shall be demonstrated as follows: [OAC 252:100-8-6(a)]
  - a. The permittee shall conduct Method 9 or Method 22 visual observations of emissions from each point listed above at least once per week during which a unit operates. In no case shall the observation period be less than six minutes in duration. If visible emissions are observed for six minutes in duration for any observation period and such emissions are not the result of a malfunction, then the permittee shall conduct, for the identified points, within 24 hours, a visual observation of emissions, in accordance with 40 CFR Part 60, Appendix A, Method 9.
  - b. When four consecutive weekly visible emission observations or Method 9 observations show no visible emissions, or no emissions of a shade or density greater than twenty (20) percent equivalent opacity, respectively, the frequency may be reduced to monthly visual observations, as above. Upon any showing of non-compliance the observation frequency shall revert to weekly.
  - c. If a Method 9 observation exceeds 20% opacity the permittee shall conduct at least two additional Method 9 observations within the next 24-hours. If more than one six-minute Method 9 observation exceeds 20% opacity in any consecutive 60 minutes; or more than three six-minute Method 9 observations in any consecutive 24 hours exceeds 20% opacity; or if any six-minute Method 9 observation exceeds 60% opacity; the owner or operator shall comply with the provisions for excess emissions during start-up, shut-down, and malfunction of air pollution control equipment.

**E. EUG-4 Kiln Department – Non-Grandfathered Equipment, NSPS**

EU	Point	Description	PM <sub>10</sub> Emissions		Opacity Limit
			lb/hr	TPY	
EK-48 EK-59 EK-61 EK-76 EK-83 EK-51/64 3-SN-6	3-DC-1	Main Lime Handling System Dust Collector	1.28	5.61	7%
30-DC-2	30-DC-2	Kiln Feed Dedusting Dust Collector	0.90	3.95	7%
3-DC-5	3-DC-5	Maerz ROK Lime System Dust Collector	0.44	1.93	7%
3-DG-14	3-DG-14	Maerz Feed Belt to Maerz Kiln Feed Bins (4-BC-12 to 3-DG-14)	0.07	0.29	7%

EU	Point	Description	PM <sub>10</sub> Emissions		Opacity Limit
			lb/hr	TPY	
4-SN-3	4-SN-3	Maerz Feed Bins to Kiln Feed Screen (3-DG-14 to 4-SN-3)	0.05	0.19	7%
4-PILE-1	4-PILE-1	Kiln Feed Screen to Fines Bunker (4-SN-3 to 4-PILE-1)	0.72	0.94	7%
4-SH-1	4-SH-1	Kiln Feed Screen to Bottom Weigh Hopper (4-SN-3 to 4-SH-1)	0.07	0.27	7%
4-SW-1	4-SW-1	Bottom Weigh Hopper to Maerz Skip Winch (4-SH-1 to 4-SW-1)	0.07	0.27	7%

1. The affected facilities listed above are subject to NSPS Subpart OOO and shall comply with all applicable requirements. [40 CFR §§ 60.670-60.676]
2. The opacity of discharges from screens and conveyor transfer points constructed after April 22, 2008 shall not exceed 7% opacity. [40 CFR § 60.672(b)]
3. The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control emissions from the affected facility must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expediently as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under §60.676(b). [40 CFR § 60.674(b)]
4. Dust collector 30-DC-2 must meet a PM stack emission limit of 0.014 gr/dscf no later than 180 days after initial startup as required under §60.8. [40 CFR § 60.672(a)]
5. The permittee must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR Part 60, Appendix A-7) on dust collector 30-DC-2 while it is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner or operator must record each Method 22 (40 CFR Part 60, Appendix A-7) test, including the date and any corrective actions taken, in the logbook required under §60.676(b). [40 CFR § 60.674(c)]
6. Reports shall be submitted as specified. [40 CFR § 60.676]
7. For dust collectors 3-DC-1, 3-DC-5, 3-DC-8, 3-DC-49 to 3-DC-53, and 30-DC-3 compliance with opacity limitations shall be demonstrated as follows:
  - a. The permittee shall conduct Method 9 or Method 22 visual observations of emissions from each point listed above at least once per week during which a unit operates. In no case shall the observation period be less than six minutes in duration. If visible emissions are observed for six minutes in duration for any observation period and such emissions are not the result of a malfunction, then the permittee shall conduct, for the identified points, within 24 hours, a visual observation of emissions, in accordance with 40 CFR Part 60, Appendix A, Method 9. [OAC 252:100-8-6(a)]



- b. When four consecutive weekly visible emission observations or Method 9 observations show no visible emissions, or no emissions of a shade or density greater than twenty (20) percent equivalent opacity, respectively, the frequency may be reduced to monthly visual observations, as above. Upon any showing of non-compliance the observation frequency shall revert to weekly.
- c. If a Method 9 observation exceeds 20% opacity the permittee shall conduct at least two additional Method 9 observations within the next 24-hours.
- d. If more than one six-minute Method 9 observation exceeds 20% opacity in any consecutive 60 minutes; or more than three six-minute Method 9 observations in any consecutive 24 hours exceeds 20% opacity; or if any six-minute Method 9 observation exceeds 60% opacity; the owner or operator shall comply with the provisions for excess emissions during start-up, shut-down, and malfunction of air pollution control equipment.

**F. EUG-5                      Kiln Department - Grandfathered**

<b>EU</b>	<b>Point</b>	<b>Description</b>	<b>Opacity</b>
EK-1	F20	Tunnel Belt to Transfer Belt (4-BC-10 to 4-BC-11)	20%
EK-2	F21	Transfer Belt to Kiln Feed Belts (4-BC-11 to 4-BC-3 / 4-BC-12)	20%
EK-8	F41	KVS Feed Belt to KVS Kiln Stone Bin (4-BC-3 to KVS Kiln)	20%
EK-13	F44	Kiln Feed Hood to Ash Ring Discharge Pile (KVS Cooler to 1-PILE-1)	20%
EK-15	F46	Vibrating Feeder to KVS Cooler Screw (1-VBF-1,2,3,4 to 1-PC-1)	*
EK-32	F36	Big Bin	*
EK-33	F35	24" Crossover Belt	*
3-BN-1	3-BC-4	Lime Bin 1 to Belt (3-BN-1 to 3-BC-4)	*
3-BC-4	3-CR-1	Belt to 2-Roll Crusher (3-BC-4 to 3-CR-1)	*
3-BN-2	3-BC-3	Lime Bin 2 to Belt (3-BN-2 to 3-BC-3)	*
3-BN-3	3-BC-4	Lime Bin 3 to Belt (3-BN-3 to 3-BC-4)	*
3-BN-4	3-BC-3	Lime Bin 4 to Belt (3-BN-4 to 3-BC-3)	*
3-BN-5	3-BC-4	Lime Bin 5 to Belt (3-BN-5 to 3-BC-4)	*
3-BN-7	3-BC-4	Lime Bin 7 to Belt (3-BN-7 to 3-BC-6)	*
3-BN-6	3-BC-3	Lime Bin 6 to Belt (3-BN-6 to 3-BC-3)	*
3-BN-8	3-BC-3	Lime Bin 8 to Belt (3-BN-8 to 3-BC-3)	*
3-BC-6	3-BC-6	Belt to Belt (3-BC-3 to 3-BC-6)	*
EK-77	F73	Belt to Truck Loading Spout (3-BC-6 to Dolo Blend Loadout)	20%
EK-84	F105	2-Roll Crusher to Elevators (3-CR-1 to 3-BEL-9 / 3-BEL-5)	*
3-SN-1	3-CR-1	Screen to Roll Crusher (3-SN-1 to 3-CR-1)	*

\* Unit enclosed inside a 3-sided building. The 20% opacity limit applies to these sources, but visual observations are conducted on the building containing these sources rather than each individual source.

1. The opacity of discharges from the above equipment shall not exceed 20% opacity. [OAC 252:100-25]
2. Compliance with opacity limitations shall be demonstrated as follows: [OAC 252:100-8-6(a)]
  - a. The permittee shall conduct Method 9 or Method 22 visual observations of emissions from each point (or building as appropriate) listed above at least once per week during which a unit operates. In no case shall the observation period be less than six minutes in duration. If visible emissions are observed for six minutes in duration for any observation period and such emissions are not the result of a malfunction, then the permittee shall conduct, for the identified points, within 24 hours, a visual observation of emissions, in accordance with 40 CFR Part 60, Appendix A, Method 9.
  - b. When four consecutive weekly visible emission observations or Method 9 observations show no visible emissions, or no emissions of a shade or density greater than twenty (20) percent equivalent opacity, respectively, the frequency may be reduced to monthly visual observations, as above. Upon any showing of non-compliance the observation frequency shall revert to weekly.
  - c. If a Method 9 observation exceeds 20% opacity the permittee shall conduct at least two additional Method 9 observations within the next 24-hours.
  - d. If more than one six-minute Method 9 observation exceeds 20% opacity in any consecutive 60 minutes; or more than three six-minute Method 9 observations in any consecutive 24 hours exceeds 20% opacity; or if any six-minute Method 9 observation exceeds 60% opacity; the owner or operator shall comply with the provisions for excess emissions during start-up, shut-down, and malfunction of air pollution control equipment.

**G. EUG-6 Insignificant Activities** Emissions from the equipment listed below are estimated based on existing equipment items and are insignificant (less than 5 TPY).

EU	Point	Description	Process Rate		Construction Date
EK-145	F-45	KVS exhaust gas discharge cleanout	Emergency Only		1964
EH-10	F-70	Hydrator cleanout screw conveyor	0.05 TPH	24 TPY	1988
M-6	P-13	Diesel Storage Tank (12,000 gal)	175,000 gal/yr		1998

**H. EUG-7 Hydrator Department**

EU	Point	Description	PM <sub>10</sub> Emissions	
			lb/hr	TPY
6-DC-2	6-DC-2	Hydrate Feed Dust Collector	1.13	1.65
6-WS-1	6-WS-1	Hydrator Wet Scrubber	3.84	5.62
6-DC-1	6-DC-1	Hydrate Product Bin/Loadout Dust Collector	0.40	0.59

1. The opacity of discharges from the above equipment shall not exceed 20% opacity. [OAC 252:100-25]
2. Compliance with opacity limitations shall be demonstrated as follows: [OAC 252:100-8-6(a)]
  - a. The permittee shall conduct Method 9 or Method 22 visual observations of emissions from each point listed above at least once per week during which a unit operates. In no case shall the observation period be less than six minutes in duration. If visible emissions are observed for six minutes in duration for any observation period and such emissions are not the result of a malfunction, then the permittee shall conduct, for the identified points, within 24 hours, a visual observation of emissions, in accordance with 40 CFR Part 60, Appendix A, Method 9.
  - b. When four consecutive weekly visible emission observations or Method 9 observations show no visible emissions, or no emissions of a shade or density greater than twenty (20) percent equivalent opacity, respectively, the frequency may be reduced to monthly visual observations, as above. Upon any showing of non-compliance the observation frequency shall revert to weekly.
  - c. If a Method 9 observation exceeds 20% opacity the permittee shall conduct at least two additional Method 9 observations within the next 24-hours.
  - d. If more than one six-minute Method 9 observation exceeds 20% opacity in any consecutive 60 minutes; or more than three six-minute Method 9 observations in any consecutive 24 hours exceeds 20% opacity; or if any six-minute Method 9 observation exceeds 60% opacity; the owner or operator shall comply with the provisions for excess emissions during start-up, shut-down, and malfunction of air pollution control equipment.

**I. EUG-8 Stock Piles**

EU	Point	Description	Construction Date
8-PILE-5	8-PILE-5	Large Stone pile	1964
8-PILE-4	8-PILE-4	Med. Stone pile	1964
8-PILE-3	8-PILE-3	Small Stone pile	1964
7-PILE-1	7-PILE-1	PLS/Fines Feed pile	1988
8-PILE-1	8-PILE-1	Crusher Screenings/Waste stockpile	1964

EU	Point	Description	Construction Date
8-PILE-2	8-PILE-2	Temporary Surge stockpile	1964
4-PILE-1	4-PILE-1	Fines Bunker	2019
5-PILE-1	5-PILE-1	Coal stockpile	1976
5-PILE-2	5-PILE-2	Coke stockpile	2001

1. Stock piles shall be watered when necessary to control emissions of fugitive dust. Other dust control measures may be used provided that the measures are adequate to achieve compliance with applicable requirements. [OAC 252:100-29]

**J. EUG-9 Unpaved Haul Roads:** These emission units are “grandfathered” and they are limited to the existing equipment as it is.

EU	Point	Description	Construction Date
9	9	Unpaved Quarry and Plant Haul Roads	1964

1. Haul roads shall be watered when necessary to control emissions of fugitive dust. [OAC 252:100-29]

**K. EUG-11 Facility-Wide-Miscellaneous Fugitives** Emissions from the equipment listed below are estimated based on existing equipment items and are insignificant (less than 5 TPY).

EU	Point	Description	Construction Date
M-1	F97	Crushed Limestone Transfer to Rail Cars	2004
M-4	F100	Movement of Ash Ring to Waste	1964

**L. EUG-13 Solid Fuel Processing Equipment**

EU	Point	Description	Opacity	PM <sub>10</sub> Emissions	
				lb/hr	TPY
EK-88	F54	Solid Fuel Storage Pile (loader) to South Solid Fuel Hopper (5-PILE-1 to 5-HP-1)	20%	0.01	0.02
EK-89	F55	Solid Fuel Storage Pile (loader) to North Solid Fuel Hopper (5-PILE-2 to 5-HP-4)	20%	0.01	0.02
EK-90	F56	Belt to Belt (5-BC-2 to 5-BC-1)	20%	0.01	0.04
5-BC-2	5-BC-2	Belt to Belt (5-BC-4 to 5-BC-2)	20%	0.01	0.02
5-BC-5	5-BC-2	Belt to Belt (5-BC-5 to 5-BC-2)	20%	0.01	0.02
5-BR-1	5-BR-1	Coal Mill Air Heater	20%	0.04	0.18
5-DC-1	5-DC-1	Solid Fuel Silo Dust Collector	20%	0.13	0.57
5-DC-2	5-DC-2	Grinding Circuit Process Filter	20%	0.52	2.28

EU	Point	Description	Opacity	PM <sub>10</sub> Emissions	
				lb/hr	TPY
5-BEL-1	5-BEL-1	Belt to Solid Fuel Elevator (5-BC-1 to 5-BEL-1)	20%	0.01	0.04
5-SF-1	5-SF-1	Solid Fuel Silo (North) to Solid Fuel Weigh Feeder (5-CS-1 to 5-SF-1)	20%	0.01	0.01
5-CS-2	5-CS-2	Solid Fuel Elevator to Solid Fuel Silo (South) (5-BEL-1 to 5-CS-2)	20%	0.01	0.02
5-CL-1	5-CL-1	Solid Fuel Weigh Feeder to KVS Solid Fuel Mill/Classifier (5-SF-1 to 5-CL-1)	20%	0.01	0.01
5-CS-1	5-CS-1	Solid Fuel Elevator to Solid Fuel Silo (North) (5-BEL-1 to 5-CS-1)	20%	0.01	0.01
5-SF-3	5-CL-2	Solid Fuel Weigh Feeder to Maerz Solid Fuel Mill/Classifier (5-SF-3 to 5-CL-2)	20%	0.01	0.02

Point	Description	CO		NO <sub>x</sub>		SO <sub>2</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
5-BR-1	Coal Mill Air Heater	0.42	1.84	0.50	2.19	0.01	0.05

1. The Solid Fuel Processing equipment shall comply with the applicable limitation of 20% opacity for all discharges. [OAC 252:100-25]
  - a. The permittee shall conduct Method 9 or Method 22 visual observations of emissions from each emission unit listed above at least once per week during which a unit operates. In no case shall the observation period be less than six minutes in duration. If visible emissions are observed for six minutes in duration for any observation period and such emissions are not the result of a malfunction, then the permittee shall conduct, for the identified points, within 24 hours, a visual observation of emissions, in accordance with 40 CFR Part 60, Appendix A, Method 9.
  - b. When four consecutive weekly visible emission observations or Method 9 observations show no visible emissions, or no emissions of a shade or density greater than twenty (20) percent equivalent opacity, respectively, the frequency may be reduced to monthly visual observations, as above. Upon any showing of non-compliance the observation frequency shall revert to weekly.
  - c. If a Method 9 observation exceeds 20% opacity the permittee shall conduct at least two additional Method 9 observations within the next 24-hours.
  - d. If more than one six-minute Method 9 observation exceeds 20% opacity in any

consecutive 60 minutes; or more than three six-minute Method 9 observations in any consecutive 24 hours exceeds 20% opacity; or if any six-minute Method 9 observation exceeds 60% opacity; the owner or operator shall comply with the provisions for excess emissions during start-up, shut-down, and malfunction of air pollution control equipment.

**M. EUG 14      Lime Kilns**

Point	Source	PM <sub>10</sub>		NO <sub>x</sub>		SO <sub>2</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
P-5	KVS Kiln	14.00	61.32	55.30	242.2	9.30	40.7
	Coal mill						

Point	Source	PM <sub>10</sub> (PM <sub>2.5</sub> )		CO		NO <sub>x</sub>		SO <sub>2</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
30-DC-1	Vertical Kiln	6.84 (6.21)	29.9 (27.2)	105.50	443.6	61.16	231.3	21.7	91.2

1. The kilns shall be fueled with natural gas, petroleum coke, coal or a combination of these fuels. Sulfur content of solid fuels or fuel blends shall not exceed 6.0% by weight. SO<sub>2</sub> emissions shall not exceed 1.2 lb/MMBTU. The permittee may petition for a higher fuel sulfur content limit if performance testing shows that scrubbing system SO<sub>2</sub> removal rates are sufficient to maintain compliance with SO<sub>2</sub> emission limits. [OAC 252:100-31]
2. NO<sub>x</sub> (as NO<sub>2</sub>) emissions shall not exceed 0.7 lb/MMBTU from solid fuel combustion or 0.2 lb/MMBTU from gas fuel combustion. [OAC 252:100-33]
3. No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. [OAC 252:100-25]
4. KVS Kiln particulate emissions are controlled by a wet scrubber and Vertical Kiln particulate emissions are controlled by a fabric filter (baghouse). Both control devices are subject to compliance assurance monitoring (CAM) for particulate. [40 CFR Part 64]
5. Exhaust gases from the Vertical Kiln shall be vented through the fabric filter dust collector (30-DC-1) at all times. [OAC 252:100-8-5]
6. The permittee shall not produce more than 210,240 tons of lime from the Vertical Kiln on a rolling 12-month basis. Monthly and rolling 12-months records of lime production must be kept. [OAC 252:100-43]

7. SO<sub>2</sub> emissions from the Vertical Kiln shall not exceed 0.868 lbs per ton of lime produced on a rolling 30-day average basis, including during periods of routine maintenance, startup, or shutdown.
  - a. The permittee shall maintain daily records of the amount of lime produced each operating day and for each rolling 30-day period.
  - b. The permittee shall measure and record the amount of solid fuel combusted each operating day.
  - c. The permittee shall determine and record the sulfur (S) content of the solid fuel blend each operating day.
  - d. The permittee shall calculate daily SO<sub>2</sub> emissions based on the following equation:
    1.  $lb\ SO_2/day = (Tons\ solid\ fuel/day) \times (2000\ lb/ton) \times (lb\ S/lb\ Fuel) \times (64\ lb/lbmol\ SO_2/32\ lb/lbmol\ S) \times (lbmol\ SO_2/lbmol\ S) \times (100 - \% SO_2\ removal\ efficiency)$ .
    2. The % SO<sub>2</sub> removal efficiency shall be based on the testing as described in Condition 11.
  - e. The permittee shall determine and record the lb of SO<sub>2</sub> emissions per ton of lime produced for each operating day and for each rolling 30-day averaging period.
  - f. For purposes of this Condition, SO<sub>2</sub> emissions from the combustion of pipeline quality natural gas are assumed to be negligible and no calculations for natural gas combustion are necessary. [OAC 252:100-31]
8. SO<sub>2</sub> emissions from the Vertical Kiln and KVS Kiln shall not exceed 21.7 lb/hr and 9.3 lb/hr, respectively, based on a 30-day rolling average.
  - a. The permittee shall monitor and record the hours of operation for each kiln.
  - b. The permittee shall determine the daily-average hourly SO<sub>2</sub> emission rate from each kiln using the equation in Specific Condition 7.d, and dividing by the daily operating hours for each kiln.
  - c. Using the daily-average hourly emission rate calculated above for each kiln, the permittee shall determine and record a 30-day rolling average hourly emission rate for each operating day for each kiln.
  - d. For purposes of this Condition, SO<sub>2</sub> emissions from the combustion of pipeline quality natural gas are assumed to be negligible and no calculations for natural gas combustion are necessary. [OAC 252:100-43]
  - g. CO emissions from the Vertical Kiln shall not exceed 4.22 lbs per ton of lime produced, including periods of routine maintenance, startup, or shutdown. Compliance shall be demonstrated via the testing required by Specific Condition 11. [OAC 252:100-43]

9. For the Vertical Kiln dust collector (30-DC-1), compliance with opacity and PM<sub>10</sub> / PM<sub>2.5</sub> emission limitations shall be demonstrated as follows:
  - a. The permittee shall conduct Method 9 or Method 22 visual observations of emissions from the Vertical Kiln dust collector (30-DC-1) at least once per day during which the vertical kiln operates. In no case shall the observation period be less than six minutes in duration. If visible emissions are observed for six minutes in duration for any observation period and such emissions are not the result of a malfunction, then the permittee shall conduct, for the identified points, within 24 hours, a visual observation of emissions, in accordance with 40 CFR Part 60, Appendix A, Method 9.
  - b. If a Method 9 observation exceeds 20% opacity the permittee shall conduct at least two additional Method 9 observations within the next 24-hours.
  - c. If more than one six-minute Method 9 observation exceeds 20% opacity in any consecutive 60 minutes; or more than three six-minute Method 9 observations in any consecutive 24 hours exceeds 20% opacity; or if any six-minute Method 9 observation exceeds 60% opacity; the owner or operator shall comply with the provisions of OAC 252:100-9.
  - d. The permittee shall maintain a log of all VE surveys, survey results, and corrective actions implemented. [OAC 252:100-43]
10. For the Vertical Kiln dust collector (30-DC-1), compliance with opacity and PM<sub>10</sub> / PM<sub>2.5</sub> emission limitations shall be demonstrated as follows:
  - a. The permittee shall conduct Method 9 or Method 22 visual observations of emissions from the Vertical Kiln dust collector (30-DC-1) at least once per day during which the vertical kiln operates. In no case shall the observation period be less than six minutes in duration. If visible emissions are observed for six minutes in duration for any observation period and such emissions are not the result of a malfunction, then the permittee shall conduct within 24 hours, a visual observation of emissions, in accordance with 40 CFR Part 60, Appendix A, Method 9.
  - b. If a Method 9 observation exceeds 20% opacity the permittee shall conduct at least two additional Method 9 observations within the next 24-hours.
  - c. If more than one six-minute Method 9 observation exceeds 20% opacity in any consecutive 60 minutes; or more than three six-minute Method 9 observations in any consecutive 24 hours exceeds 20% opacity; or if any six-minute Method 9 observation exceeds 60% opacity; the owner or operator shall comply with the provisions of OAC 252:100-9.
  - d. The permittee shall maintain a log of all VE surveys, survey results, and corrective actions implemented. [OAC 252:100-43]
11. The permittee shall conduct performance testing on the Vertical Kiln and KVS Kiln as shown in the Table below and furnish a written report to Air Quality. A sampling protocol and notification of testing date(s) shall be submitted at least 30 days in advance of commencement of testing. The USEPA methods listed below shall be used for testing of emissions, unless otherwise approved by Air Quality.



- a. During the initial SO<sub>2</sub> test of the Vertical Kiln, the fuel sulfur input rate shall be determined for each test run by measuring the solid fuel feed rate and the solid fuel blend sulfur content. The fuel sulfur input rate shall be converted to an equivalent uncontrolled SO<sub>2</sub> emission rate.
  - i. The SO<sub>2</sub> removal efficiency of the Vertical Kiln and baghouse dry scrubbing process shall be determined during each test run according to the following equation.

$$SO_2 \text{ removal efficiency (\%)} = (1 - [(tested SO_2 \text{ emission rate, lb/hr)} / (\text{equivalent uncontrolled } SO_2 \text{ emission rate from fuel input, lb/hr})]) \times 100.$$

- ii. The average SO<sub>2</sub> removal efficiency shall be determined as the average of the three 1-hour runs.
- iii. The SO<sub>2</sub> removal efficiency for the KVS Kiln wet scrubber shall also be determined during the next SO<sub>2</sub> test of the KVS Kiln.

<b>Pollutant</b>	<b>Kiln Tested</b>	<b>EPA Reference Test Method</b>	<b>Frequency</b>
CO	Vertical	Method 10	Initially and every 2 years
NO <sub>x</sub> , NO <sub>2</sub>	Vertical and KVS for NO <sub>x</sub>	Method 7E	Initially and every 5 years
PM <sub>10</sub>	KVS	Method 5 / Method 202	Every 5 years

- b. Initial testing for burning solid fuel shall be completed and a report submitted within 180 days following start-up on solid fuel. “Start-up on solid fuel” will have occurred once the Vertical Kiln can sustain continuous operations on solid fuels and operate within 90% of design capacity of the Vertical Kiln.
  - c. Recurring tests shall be conducted while combusting natural gas as long as solid fuel has not been combusted since the last performance test.
12. Compliance assurance monitoring for the KVS Kiln PM emissions shall be conducted as shown on the following table: [40 CFR Part 64]

	<b>Indicator No. 1</b>	<b>Indicator No. 2</b>	<b>Indicator No. 3</b>
Indicator	Opacity	Scrubber pressure differential	Scrubber liquor flow
Measurement Approach	Opacity shall be monitored using a certified Visible Emissions Evaluator	Differential pressure transducer	Scrubber liquid pump electric power consumption is measured using an ammeter
Indicator Range	An excursion is defined as an opacity greater than 20% except for one six-minute period per hour not to exceed 60% opacity	An excursion is defined as a daily pressure differential below 6.7 inches water column. Excursions trigger an inspection, corrective actions, and a reporting requirement on the Semi-Annual Report (SAR).	An excursion is defined as an hourly pump power usage below 122 amps on the KVS Kiln or 121 amps on the Fuller Kiln, or 51 amps on the third pump split to the two kilns. Excursions trigger an inspection, corrective actions, and a reporting requirement on the SAR
Data Representativeness Performance Criteria	The Visible Emissions Evaluator shall be positioned in compliance with EPA Method 9 of 40 CFR Part 60, Appendix A	The differential pressure manometer monitors the static pressures upstream and downstream of the wet scrubber	Ammeters for each pump will measure current at each pump connection.
QA/QC Practices and Criteria	The Visible Emissions Evaluator shall be certified every six months in Method 9	Monthly comparison to U-tube manometer. Acceptability criterion is 1 inch WC.	The ammeter shall be calibrated at least annually in accordance with manufacturer specifications.
Monitoring Frequency	One six-minute average shall be conducted per month when the unit is operated	Measured daily when the unit is operated	Measured continuously during kiln operation
Data Collection Procedure	Data are recorded manually	Data are recorded manually or electronically.	Recorded at least once per hour either in a log or by computer.
Averaging Period	Six-minute averages	daily	1-hour

13. Compliance assurance monitoring for Vertical Kiln PM<sub>10</sub> emissions shall be conducted as shown on the following table: [40 CFR Part 64]

	<b>Indicator No. 1</b>	<b>Indicator No. 2</b>
Indicator	Opacity	Pressure differential across baghouse
Measurement Approach	Opacity shall be monitored using a certified Visible Emissions Evaluator	Pressure differential shall be measured using a pressure transduce, pressure gauge, or approved alternative
Indicator Range	An excursion is defined as an opacity greater than 20% except for one six-minute period per hour not to exceed 60% opacity	2.0 to 7.0 inches of water column (inches w.c.)
Data Representativeness Performance Criteria	The Visible Emissions Evaluator shall be positioned in compliance with EPA Method 9 of 40 CFR Part 60, Appendix A	Pressure differential shall be measured at the inlet and discharge from the baghouse.
QA/QC Practices and Criteria	The Visible Emissions Evaluator shall be certified every six months in Method 9	Differential pressure devices will be calibrated annually, and pressure checked daily for plugging.
Monitoring Frequency	One six-minute average shall be conducted per day when the unit is operated	Continuously (at least one reading every 15 minutes)
Data Collection Procedure	Data are recorded manually	Data recorded by computer or manually
Averaging Period	Six-minute averages	24-hour averages

**N. EUG-15 Gasoline Storage Tank**

<b>EU</b>	<b>Point</b>	<b>Description</b>	<b>Volume, Gallons</b>	<b>Construction Date</b>
M-7	P-14	Gasoline storage tank	2,000	1998

1. The gasoline storage tank is subject to the work practice standards in 40 CFR 63.11116 (NESHAP Subpart CCCCC) and the permittee must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time, including taking measures to:

[40 CFR §63.11116]

- a. Minimize gasoline spills;
- b. Clean up spills as expeditiously as practicable; and
- c. Cover all gasoline containers and all gasoline storage tank fill-pipes with a

gasketed seal when not in use.

2. Gasoline throughput shall not exceed 10,000 gallons per month. [OAC 252:100-8-6(a)]
  
3. The permittee is not required to submit notifications or reports as specified in §63.11125, §63.11126, or 40 CFR 63 Subpart A, but must have records available within 24 hours of a request by the Administrator to document the gasoline throughput. [40 CFR §63.11125, §63.11126]

**O. EUG-17      Reciprocating Internal Combustion Engines (RICE)**

EU	Point	Description	HP	Construction Date
1-STM-1	1-STM-1	KVS Kiln diesel drive engine	85	1964
1-STM-2	1-STM-2	Vertical Kiln emergency generator engine	74	2019

1. The engines for the KVS and Vertical Kilns are subject to 40 CFR Part 63 (NESHAP) Subpart ZZZZ and shall meet all applicable provisions. [40 CFR Part 63, Subpart ZZZZ]
  - a. § 63.6580 What is the purpose of subpart ZZZZ?
  - b. § 63.6585 Am I subject to this subpart?
  - c. § 63.6590 What parts of my plant does this subpart cover?
  - d. § 63.6595 When do I have to comply with this subpart?
  - e. § 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?
  - f. § 63.6605 What are my general requirements for complying with this subpart?
  - g. § 63.6625 What are my monitoring, installation, operation, and maintenance requirements?
  - h. § 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?
  - i. § 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?
  - j. § 63.6650 What reports must I submit and when?
  - k. § 63.6655 What records must I keep?
  - l. § 63.6660 In what form and how long must I keep my records?
  - m. § 63.6665 What parts of the General Provisions apply to me?
  - n. § 63.6670 Who implements and enforces this subpart?
  - o. § 63.6675 What definitions apply to this subpart?
  
2. The engine for the Vertical Kiln is subject to 40 CFR Part 60 (NSPS) Subpart IIII and shall meet all applicable provisions. [40 CFR Part 60, Subpart IIII]

- a. § 60.4200 Am I subject to this subpart?
- b. § 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?
- c. § 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?
- d. § 60.4203 How long must my engines meet the emission standards if I am a stationary CI internal combustion engine manufacturer?
- e. § 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?
- f. § 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?
- g. § 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?
- h. § 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?
- i. § 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?
- j. § 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?
- k. § 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?
- l. §60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?
- m. § 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?
- n. § 60.4218 What parts of the General Provisions apply to me?
- o. § 60.4219 What definitions apply to this subpart?

#### **FACILITY SPECIFIC CONDITIONS**

1. The facility shall be authorized to operate continuously (24 hours per day, every day of the year). [OAC 252:100-8-6(a)]
2. The Crushing, Screening, Calcining, Hydrating, and Product Load-out operations shall be checked at least weekly for spills of dry material. If such spills are discovered, they shall be recorded on a log sheet or check list and the spilled material shall be cleaned up within 3 days of discovery. [OAC 252:100-8-6(a)]
3. The permittee shall keep records of operations as listed below. These records shall be maintained on-site and accessible to regulatory personnel upon request. Required records shall be retained for a period of at least five years following dates of recording. [OAC 252:100-43]
  - a. Records of all process rates (TPH averaged monthly) required to calculate

- emissions for appropriate EUGs.
- b. Records as required by NSPS Subpart OOO for the Crusher Department.
  - c. Records as required by NSPS Subpart OOO for the Fines Department.
  - d. Hydrator Department process rates (TPH averaged monthly).
  - e. Solid Fuel Processing Equipment process rates (TPH averaged monthly).
  - f. Records of opacity testing for the equipment in EUGs 1, 2, 3, 4, 5, 7, 11, 13, and 14.
  - g. Fines Department process rate (TPH averaged monthly).
  - h. Pressure differentials of the KVS kiln wet scrubber (daily when operated).
  - i. KVS kiln scrubber liquor pump electric power usage (continuous when operated).
  - j. SO<sub>2</sub> emission calculations for the Vertical Kiln and KVS Kiln required in EUG-14 (daily and rolling 30-day)
  - k. Kiln coal/coke sulfur content (monthly).
  - l. Records of inspection of the Crushing, Screening, Calcining, Hydrating, and Product Load-out operations for spills of dry material, and clean-up of such materials when discovered (weekly).
  - m. Records as required by NESHAP Subpart ZZZZ.
  - n. Records as required by NSPS Subpart IIII.
  - o. Records as required by NESHAP Subpart CCCCCC.
  - p. Records as required by 40 CFR Part 64, Compliance Assurance Monitoring (CAM).
4. Reasonable precautions shall be taken to minimize fugitive dust emissions from all activities. These precautions may include, but are not limited to:  
[OAC 252:100-29]
- a. Use of water or chemicals on roads, stockpiles, and materials during transfer operations.
  - b. Application of other coatings or coverings to substances susceptible to becoming air-borne or wind-borne.
  - c. Covering or wetting material in trucks.
  - d. Planting and maintaining vegetation coverings or windbreaks.
  - e. Locate stockpiles as to provide minimum exposure to high winds and avoid open spaces in line with neighboring homes and businesses.
  - f. Curtail operations to the extent necessary to comply with the emissions limitations.
5. The following records shall be maintained on-site to verify Insignificant Activities. All such records shall be made available to regulatory personnel upon request. These records shall be maintained for a period of at least five years after the time they are made.  
[OAC 252:100-8-6(a)]
- a. Calculations of emissions of all units in EUG-6 (annual).

6. No later than 30 days after each anniversary date of the issuance of the initial Title V operating permit (March 22, 2004), the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit.  
[OAC 252:100-8-6 (c)(5)(A) & (D)]
7. The Permit Shield (Standard Conditions, Section VI) is extended to the following requirements that have been determined to be inapplicable to this facility.  
[OAC 252:100-8-6(d)(2)]
  - a. OAC 252:100-11 Alternative Emissions Reduction
  - b. OAC 252:100-17 Incinerator
  - c. OAC 252:100-23 Cotton Gins
  - d. OAC 252:100-24 Grain Elevators
  - e. OAC 252:100-35 Carbon Monoxide
  - f. OAC 252:100-39 VOC in Non-Attainment Areas
  - g. 40 CFR Part 61 NESHAP
8. This facility is considered a Prevention of Significant Deterioration (PSD) facility. As such, the facility is subject to the provisions of OAC 252:100-8-36.2(c) for any project as defined therein.  
[OAC 252:100-8-36.2(c)]
9. Any equipment additions, equipment modifications, or emission limits taken from Permit Number 2008-284-C (M-1) (PSD) and included in this permit which have not yet been accomplished are limited to authority granted under that permit.  
[OAC 252:100-8-1.4]
10. On issuance, this permit supersedes and replaces Permit No. 2013-2239-TVR2, which will be cancelled. This permit supersedes and replaces all previous facility Air Quality operating permits.  
[OAC 252:100-8-6(a)]





**MAJOR SOURCE AIR QUALITY PERMIT  
STANDARD CONDITIONS  
(June 21, 2016)**

**SECTION I. DUTY TO COMPLY**

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.

[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

**SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS**

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements. [OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F. [OAC 252:100-8-6(a)(3)(C)(iv)]

**SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING**

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

- (1) the date, place and time of sampling or measurement;
- (2) the date or dates analyses were performed;
- (3) the company or entity which performed the analyses;
- (4) the analytical techniques or methods used;
- (5) the results of such analyses; and
- (6) the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report.

[OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions.

[OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act.

[OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards (“NSPS”) under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants (“NESHAPs”) under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer’s instructions and in accordance with a protocol meeting the requirements of the “AQD Portable Analyzer Guidance” document or an equivalent method approved by Air Quality.

[OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM<sub>10</sub>). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

**SECTION IV. COMPLIANCE CERTIFICATIONS**

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source.

[OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.

[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

**SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM**

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification.

[OAC 252:100-8-6(c)(6)]

**SECTION VI. PERMIT SHIELD**

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit. [OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit. [OAC 252:100-8-6(d)(2)]

**SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT**

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.

[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

**SECTION VIII. TERM OF PERMIT**

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-8-4(b)(5)]

**SECTION IX. SEVERABILITY**

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[OAC 252:100-8-6 (a)(6)]

**SECTION X. PROPERTY RIGHTS**

- A. This permit does not convey any property rights of any sort, or any exclusive privilege.  
[OAC 252:100-8-6(a)(7)(D)]
- B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued.  
[OAC 252:100-8-6(c)(6)]

**SECTION XI. DUTY TO PROVIDE INFORMATION**

- A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing, terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.  
[OAC 252:100-8-6(a)(7)(E)]
- B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.  
[OAC 252:100-8-6(a)(7)(E)]
- C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.  
[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

**SECTION XII. REOPENING, MODIFICATION & REVOCATION**

- A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.  
[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]
- B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances: [OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]
- (1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
  - (2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.

(3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.

(4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d). [OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The notification should include any changes which may alter the status of a “grandfathered source,” as defined under AQD rules. Such changes may require a permit modification.

[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited. [OAC 252:100-8-6(c)(6)]

### **SECTION XIII. INSPECTION & ENTRY**

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(17) for confidential information submitted to or obtained by the DEQ under this section):

- (1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (3) inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- (4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.

[OAC 252:100-8-6(c)(2)]

**SECTION XIV. EMERGENCIES**

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance. [OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that: [OAC 252:100-8-6 (e)(2)]

- (1) an emergency occurred and the permittee can identify the cause or causes of the emergency;
- (2) the permitted facility was at the time being properly operated;
- (3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.

[OAC 252:100-8-6(a)(3)(C)(iv)]

**SECTION XV. RISK MANAGEMENT PLAN**

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date. [OAC 252:100-8-6(a)(4)]



**SECTION XVI. INSIGNIFICANT ACTIVITIES**

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

- (1) 5 tons per year of any one criteria pollutant.
- (2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.

[OAC 252:100-8-2 and OAC 252:100, Appendix I]

**SECTION XVII. TRIVIAL ACTIVITIES**

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.

[OAC 252:100-8-2 and OAC 252:100, Appendix J]

**SECTION XVIII. OPERATIONAL FLEXIBILITY**

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating.

[OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

- (1) result in no net emissions increases,
- (2) are not modifications under any provision of Title I of the federal Clean Air Act, and
- (3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph.

[OAC 252:100-8-6(f)(2)]

**SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS**

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

- (1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter.  
[OAC 252:100-13]
- (2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU.  
[OAC 252:100-19]
- (3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for:  
[OAC 252:100-25]
  - (a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
  - (b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
  - (c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
  - (d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.
- (4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards.  
[OAC 252:100-29]
- (5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide.  
[OAC 252:100-31]
- (6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system.  
[OAC 252:100-37-15(b)]
- (7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs.  
[OAC 252:100-37-36]

**SECTION XX. STRATOSPHERIC OZONE PROTECTION**

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

- (1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;
- (2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and
- (3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

- (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
- (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158;
- (3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161;
- (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;
- (5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and
- (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

**SECTION XXI. TITLE V APPROVAL LANGUAGE**

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source's Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

- (1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.
- (2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).
- (3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).
- (4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R. § 70.8(a) and (c).
- (5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.
- (6) The DEQ complies with 40 C.F.R. § 70.8(d).
- (7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).
- (8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.
- (9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).
- (10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

**SECTION XXII. CREDIBLE EVIDENCE**

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[OAC 252:100-43-6]





SCOTT A. THOMPSON  
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT  
Governor

Mr. Joel B. Wilson, Plant Manager  
U. S. Lime Company  
P. O. Box 160  
Marble City, OK 74945

SUBJECT: Permit Number: **2020-0158-TV3**  
Facility ID: 655  
Limestone Processing and Lime Calcining Plant  
Marble City, Sequoyah County, Oklahoma

Dear Mr. Wilson:

Enclosed is the permit authorizing operation of the referenced facility. Please note that this permit is issued subject to standard and specific conditions that are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed through DEQ's electronic reporting system by April 1<sup>st</sup> of every year. Any questions concerning the submittal process should be referred to the Emissions Inventory Staff at (405) 702-4100.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact the permit writer at (405) 702-4100 or e-mail to [David.Schutz@deq.ok.gov](mailto:David.Schutz@deq.ok.gov).

Sincerely,

Phillip Fielder, P.E.  
Chief Engineer  
**AIR QUALITY DIVISION**





# PART 70 PERMIT

AIR QUALITY DIVISION  
STATE OF OKLAHOMA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
707 NORTH ROBINSON, SUITE 4100  
P.O. BOX 1677  
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2020-0158-TVR3

U.S. Lime & Minerals Company

having complied with the requirements of the law, is hereby granted permission to operate the Marble City Facility at Sec. 14 – T13N – R23E (Facility ID: 655), Marble City, Sequoyah County, Oklahoma, subject to standard conditions dated June 21, 2016, and specific conditions, both attached.

This permit shall expire five years from the date of issuance, except as authorized under Section VIII of the Standard Conditions.

\_\_\_\_\_  
Division Director  
Air Quality Division

\_\_\_\_\_  
Date



**Department of Environmental Quality (DEQ)**  
**Air Quality Division (AQD)**  
**Acronym List**  
**7-1-20**

<b>ACFM</b>	Actual Cubic Feet per Minute	<b>HAP</b>	Hazardous Air Pollutants
<b>AD</b>	Applicability Determination	<b>HC</b>	Hydrocarbon
<b>AFRC</b>	Air-to-Fuel Ratio Controller	<b>HCFC</b>	Hydrochlorofluorocarbon
<b>API</b>	American Petroleum Institute	<b>HON</b>	Hazardous Organic NESHAP
<b>ASTM</b>	American Society for Testing and Materials	<b>HP</b>	Horsepower (hp)
		<b>HR</b>	Hour (hr)
		<b>H<sub>2</sub>S</b>	Hydrogen Sulfide
<b>BACT</b>	Best Available Control Technology	<b>I&amp;M</b>	Inspection and Maintenance
<b>BHP</b>	Brake Horsepower (bhp)	<b>IBR</b>	Incorporation by Reference
<b>BTU</b>	British thermal unit (Btu)	<b>IC</b>	Internal Combustion
<b>C&amp;E</b>	Compliance and Enforcement	<b>LAER</b>	Lowest Achievable Emission Rate
<b>CAA</b>	Clean Air Act	<b>LB</b>	Pound(s) [Mass] (lb, lbs, lbm)
<b>CAM</b>	Compliance Assurance Monitoring	<b>LB/HR</b>	Pound(s) per Hour (lb/hr)
<b>CAS</b>	Chemical Abstract Service	<b>LDAR</b>	Leak Detection and Repair
<b>CAAA</b>	Clean Air Act Amendments	<b>LNG</b>	Liquefied Natural Gas
<b>CC</b>	Catalytic Converter	<b>LT</b>	Long Ton(s) (metric)
<b>CD</b>	Consent Decree		
<b>CEM</b>	Continuous Emission Monitor	<b>M</b>	Thousand (Roman Numeral)
<b>CFC</b>	Chlorofluorocarbon	<b>MAAC</b>	Maximum Acceptable Ambient Concentration
<b>CFR</b>	Code of Federal Regulations	<b>MACT</b>	Maximum Achievable Control Technology
<b>CI</b>	Compression Ignition	<b>MM</b>	Prefix used for Million (Thousand-Thousand)
<b>CNG</b>	Compressed Natural Gas	<b>MMBTU</b>	Million British Thermal Units (MMBtu)
<b>CO</b>	Carbon Monoxide or Consent Order	<b>MMBTUH</b>	Million British Thermal Units per Hour (MMBtu/hr)
<b>COM</b>	Continuous Opacity Monitor	<b>MMSCF</b>	Million Standard Cubic Feet (MMscf)
		<b>MMSCFD</b>	Million Standard Cubic Feet per Day
<b>D</b>	Day	<b>MSDS</b>	Material Safety Data Sheet
<b>DEF</b>	Diesel Exhaust Fluid	<b>MWC</b>	Municipal Waste Combustor
<b>DSCF</b>	Dry Standard (At Standard Conditions) Cubic Foot (Feet)	<b>MWe</b>	Megawatt Electrical
<b>EGU</b>	Electric Generating Unit	<b>NA</b>	Nonattainment
<b>EI</b>	Emissions Inventory	<b>NAAQS</b>	National Ambient Air Quality Standards
<b>EPA</b>	Environmental Protection Agency	<b>NAICS</b>	North American Industry Classification System
<b>ESP</b>	Electrostatic Precipitator	<b>NESHAP</b>	National Emission Standards for Hazardous Air Pollutants
<b>EUG</b>	Emissions Unit Group	<b>NH<sub>3</sub></b>	Ammonia
<b>EUSGU</b>	Electric Utility Steam Generating Unit	<b>NMHC</b>	Non-methane Hydrocarbon
<b>FCE</b>	Full Compliance Evaluation	<b>NO<sub>2</sub></b>	Nitrogen Dioxide
<b>FIP</b>	Federal Implementation Plan	<b>NO<sub>x</sub></b>	Nitrogen Oxides
<b>FR</b>	Federal Register	<b>NOI</b>	Notice of Intent
<b>GACT</b>	Generally Achievable Control Technology	<b>NSCR</b>	Non-Selective Catalytic Reduction
<b>GAL</b>	Gallon (gal)	<b>NSPS</b>	New Source Performance Standards
<b>GDF</b>	Gasoline Dispensing Facility	<b>NSR</b>	New Source Review
<b>GEP</b>	Good Engineering Practice		
<b>GHG</b>	Greenhouse Gases		
<b>GR</b>	Grain(s) (gr)		

<b>O<sub>3</sub></b>	Ozone	<b>SOP</b>	Standard Operating Procedure
<b>O&amp;G</b>	Oil and Gas	<b>T</b>	Tons
<b>O&amp;M</b>	Operation and Maintenance	<b>TAC</b>	Toxic Air Contaminant
<b>O&amp;NG</b>	Oil and Natural Gas	<b>THC</b>	Total Hydrocarbons
<b>OAC</b>	Oklahoma Administrative Code	<b>TPY</b>	Tons Per Year
<b>OC</b>	Oxidation Catalyst	<b>TRS</b>	Total Reduced Sulfur
		<b>TSP</b>	Total Suspended Particulates
		<b>TV</b>	Title V of the Federal Clean Air Act
<b>PAH</b>	Polycyclic Aromatic Hydrocarbons		
<b>PAL</b>	Plant-wide Applicability Limit	<b>US EPA</b>	U. S. Environmental Protection Agency
<b>Pb</b>	Lead		
<b>PBR</b>	Permit by Rule	<b>VMT</b>	Vehicle Miles Traveled
<b>PCB</b>	Polychlorinated Biphenyls	<b>VOC</b>	Volatile Organic Compound
<b>PCE</b>	Partial Compliance Evaluation	<b>VRU</b>	Vapor Recovery Unit
<b>PEA</b>	Portable Emissions Analyzer		
<b>PFAS</b>	Per-and Polyfluoroalkyl Substance	<b>YR</b>	Year
<b>PM</b>	Particulate Matter		
<b>PM<sub>2.5</sub></b>	Particulate Matter with an Aerodynamic Diameter <= 2.5 Micrometers	<b>µg/m<sup>3</sup></b>	Micrograms Per Cubic Meter
<b>PM<sub>10</sub></b>	Particulate Matter with an Aerodynamic Diameter <= 10 Micrometers	<b>2SLB</b>	2-Stroke Lean Burn
<b>POM</b>	Particulate Organic Matter Or Polycyclic Organic Matter	<b>4SLB</b>	4-Stroke Lean Burn
<b>ppb</b>	Parts per Billion	<b>4SRB</b>	4-Stroke Rich Burn
<b>ppm</b>	Parts per Million		
<b>ppmv</b>	Parts per Million Volume		
<b>ppmvd</b>	Parts per Million Dry Volume		
<b>PSD</b>	Prevention of Significant Deterioration		
<b>psi</b>	Pounds per Square Inch		
<b>psia</b>	Pounds per Square Inch Absolute		
<b>psig</b>	Pounds per Square Inch Gage		
<b>RACT</b>	Reasonably Available Control Technology		
<b>RATA</b>	Relative Accuracy Test Audit		
<b>RICE</b>	Reciprocating Internal Combustion Engine		
<b>RO</b>	Responsible Official		
<b>ROAT</b>	Regional Office at Tulsa		
<b>RVP</b>	Reid Vapor Pressure		
<b>SCC</b>	Source Classification Code		
<b>SCF</b>	Standard Cubic Foot		
<b>SCFD</b>	Standard Cubic Feet per Day		
<b>SCFM</b>	Standard Cubic Feet per Minute		
<b>SCR</b>	Selective Catalytic Reduction		
<b>SER</b>	Significant Emission Rate		
<b>SI</b>	Spark Ignition		
<b>SIC</b>	Standard Industrial Classification		
<b>SIP</b>	State Implementation Plan		
<b>SNCR</b>	Selective Non-Catalytic Reduction		
<b>SO<sub>2</sub></b>	Sulfur Dioxide		
<b>SO<sub>x</sub></b>	Sulfur Oxides		