

STATEMENT OF BASIS

Dal-Tile International, Inc.
Fayette, Alabama
Fayette County
404-0007

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

Dal-Tile was issued its MSOP on January 4, 2017, with an effective date of October 30, 2016, and an expiration of October 29, 2021. Per ADEM Admin. Code r. 335-3-16-.12(2), an application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of the permit. The initial renewal application was timely as it was received on February 23, 2021.

Facility Description

Dal-Tile is a ceramic quarry tile facility in the Fayette, Fayette County, Alabama. The following are the significant sources of air pollutants at this facility:

- Tunnel Kilns
- Crushing and Screening Operation
- Storage Dryers
- Chemical Flashing Operation
- Extrusion and Cutting
- Feldspar Storage Silo
- Emergency Engine

The following is a summary of facility-wide controlled emissions and the reported 2019 actual emissions:

Pollutant	Potential Emissions (TPY)	2019 Actual Emissions (TPY)
PM _{total}	49.11	9.89
PM ₁₀	38.24	6.77
PM _{2.5}	28.62	4.27
PM _{con}	8.27	1.34
SO ₂	31.94	14.01
NO _x	20.11	9.39
CO	37.31	16.90

VOC	16.06	1.50
HF	22.80	12.42
HCl	7.53	0.47
GHG (CO ₂ e)	24454	-

Renewal Notes

1. Added air permit X007 Tile Edge Grinder with CAM plan to the renewal permit.
2. Additional 40 CFR 63 Subpart JJJJ requirements were added that had not been previously addressed through any other permit action.
3. The facility has requested to change the lb/hr emissions limit of the combined particulate matter emissions from the Dry Pan Crushing and Screening Line 2 (BH-2) and the Fired Scrap Crusher (BH-3) to 3.51 lb/hr.

Tunnel Kilns

The tunnel kiln operation consists of sources TK1 (Tunnel Kiln #1) and TK2 (Tunnel Kiln #2). Tunnel Kilns #1 and #2 each have a small stack (Emission Points 7 and 8) and share a combined large stack (Emission Point 9). Emissions of PM, SO₂, NO_x, CO, VOC, HCl, and HF are generated from these sources. No control device is used to control emissions from these sources.

Applicability

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01(1)

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), “*Control of Particulate Emissions for Process Industries - General*”.

Rule 335-3-4-.04(1)

- These sources have enforceable limits in place in order to prevent them from being subject to the provisions of ADEM Admin. Code r. 335-3-14-.04, “*Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration]*”.

Rule 335-3-14-.04 [Anti-PSD]

- These sources are subject to the applicable requirements in 40 CFR Part 63 Subpart JJJJ, “*National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing*”.

40 CFR 63 Subpart JJJJ, §63.8385

- These sources are subject to the applicable requirements in 40 CFR 63 Subpart A, “General Provisions” as listed in Table 10 of Subpart JJJJ.

40 CFR 63 Subpart JJJJ, §63.8505

Emissions Standards

- Natural gas shall be the exclusive fuel for the tunnel kilns.

Rule 335-3-14-.04 [Anti-PSD]

Opacity:

- The facility shall maintain no visible emissions from the Tunnel Kiln stacks.

40 CFR 63 Subpart JJJJ, Table 2 & Table 6

Particulate Matter:

- The particulate matter emission rate from each kiln shall not exceed the lesser of 2.5 lb/hr or the allowable set by the equations in Rule 335-3-4-.04:

$$E = 3.59P^{0.62} \left(P < 30 \frac{\text{tons}}{\text{hr}} \right)$$

or

$$E = 17.31P^{0.16} \left(P \geq 30 \frac{\text{tons}}{\text{hr}} \right)$$

Where:

E = Emissions in lb/hr

P = Process weight in tons/hour.

Rule 335-3-4-.04-(1) & Rule 335-3-14-.04 [Anti-PSD]

- The particulate matter emission rate from each kiln shall not exceed the 0.37 lb/ton of brick fired.

40 CFR 63 Subpart JJJJ, §63.8405(a) & Table 1

Hydrogen Fluoride and Hydrogen Chloride:

- HF, HCl, and Cl₂ emissions shall not exceed 57 lb (HCl equivalent)/hr from the collection of all kilns located at this facility.

40 CFR 63 Subpart JJJJ, §63.8405(a) & Table 1

Mercury:

- The mercury (Hg) emission rate from each kiln shall not exceed 0.00033 lb/ton of brick fired or 0.0019 lb/hr.

40 CFR 63 Subpart JJJJ, §63.8405(a) & Table 1

Non-Hg HAP Metals:

- The non-Hg HAP metal emission rate from each kiln shall not exceed 0.11 lb/hr, as an alternative to meeting the 0.37 lb/ton of brick fired limit on PM emissions.

40 CFR 63 Subpart JJJJ, §63.8405(a) & Table 1

- These sources are subject to the emissions limits in Table 1, operating limits in Table 2, and work practice standards in Table 3 to Subpart JJJJ of Part 63.

40 CFR 63 Subpart JJJJ, §63.8405

Expected Emissions

- According to the application, potential emissions are based on stack testing data, AP-42 emission factors and 8,760 hrs/yr.

Source #	Pollutant	Emission Rate	
		lb/hr	TPY
EP-7	PM	0.47	2.04
	PM ₁₀	0.47	2.04
	PM _{2.5}	0.47	2.04
	SO ₂	0.47	2.06
	CO	1.70	7.46
	VOC	0.05	0.21
	NO _x	0.28	1.23
	HCl	0.34	1.51
	HF	0.63	2.74
	HAP _{other}	0.03	0.09
EP-8	PM	0.47	2.04
	PM ₁₀	0.47	2.04

	PM2.5	0.47	2.04
	SO2	0.47	2.06
	CO	1.70	7.46
	VOC	0.05	0.21
	NO _x	0.28	1.23
	HCl	0.34	1.51
	HF	0.63	2.74
	HAP _{other}	0.03	0.09
EP-9	PM	2.65	11.61
	PM10	2.65	11.61
	PM2.5	2.65	11.61
	SO2	6.09	26.66
	CO	5.11	22.39
	VOC	0.15	0.64
	NO _x	4.03	17.66
	HCl	1.03	4.52
	HF	3.96	17.32
	HAP _{other}	0.07	0.28

Compliance and Performance Test Methods and Procedures

- Method 5 of 40 CFR 60, Appendix A, shall be used in the determination of particulate emissions from the stack.

40 CFR 63 Subpart JJJJ & Rule 335-3-1-.05

- Method 9 of 40 CFR 60, Appendix A, shall be used in the determination of opacity.

Rule 335-3-1-.05

- Method 26A or Method 320 of 40 CFR 60, Appendix A, shall be used in the determination of hydrogen halide and halogen emissions from affected sources.

40 CFR 63 Subpart JJJJ and & Rule 335-3-1-.05

- Method 26A or Method 320 of 40 CFR 60, Appendix A, shall be used in the determination of hydrogen chloride emissions from affected sources.

40 CFR 63 Subpart JJJJ and & Rule 335-3-1-.05

- Method 29 of 40 CFR 60, Appendix A shall be used in the determination of metals emissions from affected sources.

40 CFR 63 Subpart JJJJ and & Rule 335-3-1-.05

- Initial compliance testing was completed on April 30, 2019 to demonstrate compliance with 40 CFR 63 Subpart JJJJ.

40 CFR 63 Subpart JJJJ, §63.8445

Periodic Monitoring and Compliance Assurance Monitoring (CAM)

- An observation of each emission point associated with the tunnel kilns will be accomplished at least daily according to the procedures of Method 22 of 40 CFR Part 60, Appendix A-7.
 - The facility must conduct the Method 22 test while the tunnel kilns are operating under normal conditions for a minimum of 15 minutes.
 - If any visible emissions are observed during any daily check, a Method 9 visible emission observation shall be completed. If opacity greater than 10 percent is observed, the facility must initiate and complete corrective action according to their OM&M plan.
 - The facility may decrease the frequency of the Method 22 testing from daily to weekly for the tunnel kiln stacks if one of the conditions below is met.
 - If no visible emissions are observed in 30 consecutive daily Method 22 checks for any tunnel kiln stack.
 - If no opacity greater than 10 percent (10%) is observed during any of the Method 9 visible emission observations for any kiln stack.
 - If visible emissions are observed during any weekly check and opacity greater than 10 percent (10%) is observed in the subsequent Method 9 visible emission observation, the facility must promptly initiate and complete corrective action according to their OM&M plan, resume testing of the kiln stack following Method 22 of 40 CFR Part 60, Appendix A-7, on a daily basis, and maintain that schedule until one of the conditions in proviso (c)(i) or (c)(ii) above is met, at which time the facility may again decrease the frequency of Method 22 testing to a weekly basis.
 - If greater than 10 percent (10%) opacity is observed during any test conducted using Method 9, the facility must report these deviations by following the requirements in §63.8485.

40 CFR 63 Subpart JJJJ, §63.8370(e)(i)&(ii) & Rule 335-3-16-.05(c)

- The facility must prepare and implement a written operation, maintenance, and monitoring (OM&M) plan according to the requirements in §63.8425.

40 CFR 63 Subpart JJJJ, §63.8420(c)

- A performance test must be conducted before renewing the facility's 40 CFR Part 70 operating permit or at least every 5 years following the initial performance test, as well as when an operating limit parameter value is being revised.

40 CFR 63 Subpart JJJJ, §63.8440(a)

- The facility must minimize dioxin/furan emissions by implementing the following requirements from Table 3 of 40 CFR 63 Subpart JJJJ.
 - Maintain and inspect the burners and associated combustion controls.
 - Tune the specific burner type to optimize combustion.

40 CFR 63 Subpart JJJJ, Table 3

- The facility must minimize HAP emissions, including during periods of startup and shutdown, by following the requirements in Table 3 and Table 6 of 40 CFR 63 Subpart JJJJ.

40 CFR 63 Subpart JJJJ, Table 3 & Table 6

- The facility shall maintain the kiln process rate at or below the kiln process rate determined according to §63.8445(g)(1).

40 CFR 63 Subpart JJJJ, Table 2

- The Permittee shall demonstrate continuous compliance with each applicable emission limit and work practice standard according to Table 6 to Subpart JJJJ of Part 63 as of December 26, 2018.

40 CFR 63 Subpart JJJJ, §63.8470

- These units do not utilize a control device to meet an emissions standard. Therefore, CAM is not applicable.

Recordkeeping and Reporting Requirements

- The facility shall maintain a record of all inspections, to include visible emissions checks, Method 9 observations, problems noted, and corrective actions taken, performed to satisfy the requirements of periodic monitoring. Each record shall be maintained in a form suitable for inspection for a period of at least five (5) years.

Rule 335-3-16-.05(c)

- The facility shall maintain records documenting the use of natural gas.

Rule 335-3-14.04 [Anti-PSD]

- The facility shall keep records according to the requirements of §63.8490.

40 CFR 63 Subpart JJJJ, §63.8490

- The facility shall submit a written report containing statements and information concerning emission limitation (emission limits, operating limits) deviations, out of control CMS, period or startup, shutdown, or malfunction to the Department semi-annually.

40 CFR 63 Subpart JJJJ, §63.8485(c)(d)&(e) &, Table 9

- A semi-annual monitoring report stating any exceedances of stack opacity and any deviations from work practice standards or, if there are no deviations, a statement that there were no deviations, shall be submitted to the Department within sixty (60) days of the end of each semi-annual reporting period as determined by the anniversary dates of the permits.

Rule 335-3-16-.05(c)

- The facility shall submit each applicable report in Table 9 to Subpart JJJJ of Part 63 as of December 26, 2018.

40 CFR 63 Subpart JJJJ, §63.8485

Crushing and Screening Operation

The crushing and screening operation consists of sources DP1 (Dry Pan Crushing- Line 1), DP2 (Dry Pan- Crushing Line 2), SC1 (Screening- Line 1), SC2 (Screening- Line 2), and CRH1 (Fired Scrap Crusher). PM emissions are generated from these sources. Emissions from Dry Pan Crushing and Screening Line 1 are controlled by Baghouse BH-1 (Emission Point EP-1). Emissions from Dry Pan Crushing and Screening Line 2 are controlled by Baghouse BH-2, and emissions from the Fired Scrap Crusher are controlled by Baghouse BH-3. Baghouses BH-2 and BH-3 share a common exhaust (Emission Point EP-2).

Applicability

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01(1)

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), “*Control of Particulate Emissions for Process Industries - General*”.

Rule 335-3-4-.04(1)

- These sources have enforceable limits in place in order to prevent them from being subject to the provisions of ADEM Admin. Code r. 335-3-14-.04, “*Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration]*”.

Rule 335-3-14-.04 [Anti-PSD]

- These sources are not subject to the applicable requirements of 40 CFR 60 Subpart OOO, “*Standards of Performance for Nonmetallic Mineral Processing Plants*”. The crushing line #1 and line #2 were installed prior to August 1980. They have not been modified or reconstructed. 40 CFR 60 Subpart OOO only applies to crushers constructed, reconstructed or modified after August 31, 1983.
- These units are subject to applicable requirements of 40 CFR 64, “*Compliance Assurance Monitoring*”.

40 CFR 64, §64.2

Emission Standards

Opacity:

- **Rule 335-3-4-.01(1)(a)** states that no person shall emit to the atmosphere from any source of emissions, particulate matter of an opacity greater than twenty percent (20%) over a six (6) minute period. **Rule 335-3-4-.01(1)(b)** states that during one six minute period in any sixty minute period a person may discharge into the atmosphere from any source of emissions, particulate of an opacity not greater than that designated as forty percent (40%) opacity. This operation would be subject to this regulation.

Rule 335-3-4-.01(1)

Particulate Matter:

- The particulate matter emission rate from the baghouse associated with the Dry Pan Crushing and Screen – Line 1 (BH-1) shall not exceed the lesser of 3.0 lb/hr or the allowable set by the equations in Rule 335-3-4-.04(1).

Rule 335-3-4-.04(1) & Rule 335-3-14-.04 [Anti-PSD]

- The combined particulate matter emission rate from the baghouse associated with the Dry Pan Crushing and Screen – Line 2 (BH-2) and the baghouse associated with the

Fried Scrap Crusher (BH-3) shall not exceed the lesser of 3.51 lb/hr or the allowable set by the equations in Rule 335-3-4-.04(1).

Rule 335-3-4-.04(1) & Rule 335-3-14-.04 [Anti-PSD]

Emissions

- According to the application, potential emissions are based on stack testing data and 8,760 hrs/yr.

Source #	Pollutant	Emission Rate	
		lb/hr	TPY
EP-1	PM	1.56	6.85
	PM ₁₀	0.82	3.60
	PM _{2.5}	0.23	1.03
EP-2	PM	3.51	15.36
	PM ₁₀	1.84	8.08
	PM _{2.5}	0.53	2.30

Compliance and Performance Test Methods and Procedures

- Method 5 of 40 CFR 60, Appendix A, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

- Method 9 of 40 CFR 60, Appendix A, shall be used in the determination of opacity.

Rule 335-3-1-.05

Periodic Monitoring and Compliance Assurance Monitoring (CAM)

- Emission monitoring requirements under 40 CFR Part 64, “Compliance Assurance Monitoring”, can be found in the Appendix.

40 CFR 64, §64.8

Recordkeeping and Reporting Requirements

- Records of observation date, observation time, emission point designation, emission point operation mode, name of the observer, expiration date of the observer’s certification, observed opacity, and any corrective actions taken during each visible emissions observation shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

40 CFR Part 64

- If a visible emissions observation utilizing Method 9 is required, the results shall be documented using the ADEM visible emissions observation report. The Method 9 observation shall be conducted for a minimum of twelve (12) minutes. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

40 CFR Part 64

- Records of observation date, observation time, emission point designation, emission point operation mode, name of the observer, observed pressure drop (ΔP), and any corrective actions taken during each pressure drop (ΔP) observation shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

40 CFR Part 64

- A semi-annual monitoring report shall be submitted to the Department within sixty (60) days of the end of each semi-annual reporting period as determined by the anniversary dates of the permits. This report shall include summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions or exceedances and the corrective actions taken.

Rule 335-3-16-.05(c)(3) and 40 CFR Part 64

Storage Dryers

The Drying operation consists of 18 dryers. There are three stacks associated with this operation (Emission Points 3-5), each of which receives exhaust from six dryers. Emissions of PM, SO₂, and VOC are generated from these sources. No control devices are used to control emissions from these sources.

Applicability

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01(1)

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), “Control of Particulate Emissions for Process Industries - General”.

Rule 335-3-4-.04(1)

Emission Standards

Opacity:

- **Rule 335-3-4-.01(1)(a)** states that no person shall emit to the atmosphere from any source of emissions, particulate matter of an opacity greater than twenty percent (20%) over a six (6) minute period. **Rule 335-3-4-.01(1)(b)** states that during one six minute period in any sixty minute period a person may discharge into the atmosphere from any source of emissions, particulate of an opacity not greater than that designated as forty percent (40%) opacity. This operation would be subject to this regulation.

Rule 335-3-4-.01

Particulate Matter:

- The particulate matter emission rate from each emission point shall not exceed the allowable set by the equations in Rule 335-3-4-.04(1).

Rule 335-3-4-.04(1)

Emissions

- According to the application, potential emissions are based on stack testing data, AP-42 emission factors and 8,760 hrs/yr.

Source #	Pollutant	Emission Rate	
		lb/hr	TPY
EP-3, 4, & 5	PM	2.01	8.82
	PM ₁₀	2.01	8.82
	PM _{2.5}	2.01	8.82
	SO ₂	0.26	1.16
	VOC	0.57	2.51

Compliance and Performance Test Methods and Procedures

- Method 5 of 40 CFR 60, Appendix A, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

- Method 9 of 40 CFR 60, Appendix A, shall be used in the determination of opacity.

Rule 335-3-1-.05

Periodic Monitoring and Compliance Assurance Monitoring (CAM)

- The Permittee shall conduct a visual check of the stacks associated with these units at least weekly for visible emissions greater than 10%. If the instantaneous opacity exceeds 10%, maintenance inspections and/or corrective action to reduce the visible emissions are to be initiated within two (2) hours.

Rule 335-3-16-.05(c)

- After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced.

Rule 335-3-16-.05(c)

- These units do not utilize a control device to meet an emissions limit. Therefore, CAM is not applicable.

Recordkeeping and Reporting Requirements

- Stack observations, corrective action, and all maintenance records of each source shall be documented and available for inspection.

Rule 335-3-16-.05(c))

- A semi-annual monitoring report stating any exceedances of stack opacity and any deviations from work practice standards or, if there are no deviations, a statement that there were no deviations, shall be submitted to the Department within sixty (60) days of the end of each semi-annual reporting period as determined by the anniversary dates of the permits.

Rule 335-3-16-.05(c)

Chemical Flashing Operation

The Chemical Flashing Operation consists of sources CF1 (Chemical Flashing Station #1) and CF2 (Chemical Flashing Station #2). Emissions of PM, manganese, and cobalt are generated from manganese chloride and cobalt chloride being sprayed onto about twenty percent (20%) of the tile. A Wet Scrubber (Emission Point EP-6) controls emissions from these sources.

Applicability

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01(1)

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), “*Control of Particulate Emissions for Process Industries - General*”.

Rule 335-3-4-.04(1)

Emission Standards

Opacity:

- **Rule 335-3-4-.01(1)(a)** states that no person shall emit to the atmosphere from any source of emissions, particulate matter of an opacity greater than twenty percent (20%) over a six (6) minute period. **Rule 335-3-4-.01(1)(b)** states that during one six minute period in any sixty minute period a person may discharge into the atmosphere from any source of emissions, particulate of an opacity not greater than that designated as forty percent (40%) opacity. This operation would be subject to this regulation.

Rule 335-3-4-.01(1)

Particulate Matter:

- The particulate matter emission rate from each emission point shall not exceed the allowable set by the equations in Rule 335-3-4-.04(1).

Rule 335-3-4-.04-(1)

Emissions

- According to the application, potential emissions are based on engineering estimates, control device efficiency, and 8,760 hrs/yr.

Source #	Pollutant	Emission Rate	
		lb/hr	TPY
EP-6	PM	0.023	0.101
	PM ₁₀	0.023	0.101

	PM _{2.5}	0.023	0.101
	Manganese	0.007	0.03
	Cobalt	0.002	0.007

Compliance and Performance Test Methods and Procedures

- Method 5 of 40 CFR 60, Appendix A, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

- Method 9 of 40 CFR 60, Appendix A, shall be used in the determination of opacity.

Rule 335-3-1-.05

Periodic Monitoring and Compliance Assurance Monitoring (CAM)

- The Permittee shall conduct a visual check of the stacks associated with these units at least weekly for visible emissions greater than 10%. If the instantaneous visible emissions exceed 10%, maintenance inspections and/or corrective action to reduce the visible emissions are to be initiated within two (2) hours.

Rule 335-3-16-.05(c)

- After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced.

Rule 335-3-16-.05(c)

- A properly maintained and operated device shall be utilized to measure the pressure differential between the inlet and exhaust of the scrubber to determine if the pressure differential is within the manufacturer's recommended operating range. The pressure differential shall be checked on at least a weekly basis. Whenever a pressure differential is outside the manufacturer's recommended range, maintenance inspections and/or corrective action to bring the pressure differential within the manufacturer's recommended range are to be initiated within two (2) hours.

Rule 335-3-16-.05(c)

- Each pollution control device shall be inspected and cleaned at least annually.

Rule 335-3-16-.05(c))

- Uncontrolled potential emissions from these sources do not exceed 100 TPY. Therefore, CAM is not applicable.

Recordkeeping and Reporting Requirements

- Stack observations, corrective action, and all maintenance and inspection records of each source shall be documented and available for inspection.

Rule 335-3-16-.05(c)

- The facility shall maintain a record documenting the manufacture's specified range, the pressure differential readings from each weekly check, any problems noted, and any corrective actions taken. Each record shall be maintained for a period of five years from the date of generation.

Rule 335-3-16-.05(c)

- A semi-annual monitoring report stating any exceedances of stack opacity or pressure differential and any deviations from work practice standards or, if there are no deviations, a statement that there were no deviations, shall be submitted to the Department within sixty (60) days of the end of each semi-annual reporting period as determined by the anniversary dates of the permits.

Rule 335-3-16-.05(c)

Extrusion and Cutting

The extrusion and cutting operation consist of sources F-E1 (Extrusion Mill #1 and cutting) and F-E2 (Extrusion Mill #2 and Cutting). These sources only emit VOC. No control device is used to control emissions from these sources.

Applicability

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, "*Major Source Operating Permits*".

Rule 335-3-16-.03

Emission Standards

- Except as provided in the General Permit Provisions of the Air Permit, no emission standards apply to these units.

Volatile Organic Compounds (VOC):

- There are no VOC emission standards for these units.

Emissions

- According to the application, potential emissions are based on materials balance and 8,760 hrs/yr.

Source #	Pollutant	Emission Rate	
		lb/hr	TPY
F-E1	VOC	1.43	6.25
F-E2	VOC	1.43	6.25

Compliance and Performance Test Methods and Procedures

- There are no compliance and performance test methods or procedures applicable to these units.

Periodic Monitoring and Compliance Assurance Monitoring (CAM)

- There are no emissions monitoring requirements applicable to these units.
- Uncontrolled potential emissions from these sources do not exceed 100 TPY. Therefore, CAM is not applicable.

Recordkeeping and Reporting Requirements

- There are no recordkeeping or reporting requirements applicable to these units.

Feldspar Storage Silo

This source consists of one feldspar storage silo. PM emissions are generated from this source. A Bin Vent (Emission Point FS) controls emissions from this source.

Applicability

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01(1)

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), “*Control of Particulate Emissions for Process Industries - General*”.

Rule 335-3-4-.04(1)

Emission Standards

Opacity:

- **Rule 335-3-4-.01(1)(a)** states that no person shall emit to the atmosphere from any source of emissions, particulate matter of an opacity greater than twenty percent (20%) over a six (6) minute period. **Rule 335-3-4-.01(1)(b)** states that during one six minute period in any sixty minute period a person may discharge into the atmosphere from any source of emissions, particulate of an opacity not greater than that designated as forty percent (40%) opacity. This operation would be subject to this regulation.

Rule 335-3-4-.01(1)

Particulate Matter:

- The particulate matter emission rate from each emission point shall not exceed the allowable set by the equations in Rule 335-3-4-.04(1).

Rule 335-3-4-.04(1)

Emissions

- According to the application, potential emissions are based on engineering estimates and 8,760 hrs/yr.

Source #	Pollutant	Emission Rate	
		lb/hr	TPY
FS	PM	0.006	0.028
	PM ₁₀	0.006	0.028
	PM _{2.5}	0.002	0.009

Compliance and Performance Test Methods and Procedures

- Method 5 of 40 CFR 60, Appendix A, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

- Method 9 of 40 CFR 60, Appendix A, shall be used in the determination of opacity.

Rule 335-3-1-.05

Periodic Monitoring and Compliance Assurance Monitoring (CAM)

- The Permittee shall conduct a visual check of this unit while it is being loaded at least weekly for visible emissions greater than 10%. If the instantaneous opacity exceeds 10%, maintenance inspections and/or corrective action to reduce the visible emissions are to be initiated within two (2) hours, followed by an additional check to confirm the emissions have been reduced.

Rule 335-3-16-.05(c)

- This unit does not emit criteria pollutants in excess of 100 TPY. Therefore, CAM is not applicable.

Recordkeeping and Reporting Requirements

- Source observations, corrective actions, and all maintenance records for this unit shall be documented and available for inspection.

Rule 335-3-16-.05(c)

- A semi-annual monitoring report stating any exceedances of opacity and corrective actions taken shall be submitted to the Department within sixty (60) days of the end of each semi-annual reporting period as determined by the anniversary dates of the permits.

Rule 335-3-16-.05(c)

Tile Edge Grinder

This source consists of a tile edge grinder. Some of the fired tile from the kilns TK1 and TK2 will go to a grinding operation to smooth the edges and corners before going on to packaging. PM emissions are generated from this source. The emissions are controlled by a baghouse (EP-10).

Applicability

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01(1)

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), “*Control of Particulate Emissions for Process Industries - General*”.

Rule 335-3-4-.04(1)

- This source has an enforceable limit in place in order to prevent it from being subject to the provisions of ADEM Admin. Code r. 335-3-14-.04, “*Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration]*”.

Rule 335-3-14-.04 [Anti-PSD]

- This unit is subject to applicable requirements of 40 CFR 64, “*Compliance Assurance Monitoring*”.

40 CFR 64, §64.8

Emission Standards

Opacity:

- **Rule 335-3-4-.01(1)(a)** states that no person shall emit to the atmosphere from any source of emissions, particulate matter of an opacity greater than twenty percent (20%) over a six (6) minute period. **Rule 335-3-4-.01(1)(b)** states that during one six minute period in any sixty minute period a person may discharge into the atmosphere from any source of emissions, particulate of an opacity not greater than that designated as forty percent (40%) opacity. This operation would be subject to this regulation.

Rule 335-3-4-.01

Particulate Matter:

- The particulate matter emission rate from the Tile Edge Grinder Baghouse shall not exceed the lesser of 0.138 lb/ton (1.035 lb/hr) of raw material or the allowable set by the equations in Rule 335-3-4-.04(1).

Rule 335-3-4-.04-(1) and Rule 335-3-14.04 [Anti-PSD]

Emissions

- According to the application, potential emissions are based on engineering estimates and 8,760 hrs/yr.

Source #	Pollutant	Emission Rate	
		lb/hr	TPY
EP-10	PM	1.04	2.27
	PM ₁₀	0.88	1.93
	PM _{2.5}	0.31	0.68

Compliance and Performance Test Methods and Procedures

- Method 5 of 40 CFR 60, Appendix A, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

- Method 9 of 40 CFR 60, Appendix A, shall be used in the determination of opacity.

Rule 335-3-1-.05

Periodic Monitoring and Compliance Assurance Monitoring (CAM)

- Emission monitoring requirements for the Tile Edge Grinder, as specified in 40 CFR 64, “Compliance Assurance Monitoring”, can be found in Appendix A.

40 CFR 64

- The Permittee shall perform periodic inspections of the Tile Edge Grinder Baghouse to verify proper operation. The following activities shall be performed:
 - If visible emissions are noted at any time, appropriate corrective actions shall be taken to eliminate the observed emissions.
 - Once per month, check hopper, fan, and cleaning cycle for proper operation.
 - Once per month, perform a visual check of all hoods and ductwork.
 - Record any repairs or observed problems.

Rule 335-3-16-.05(c)

Recordkeeping and Reporting Requirements

- The Permittee shall maintain records of all monitoring required by this permit. This includes all problems observed and corrective actions taken. If a visible emissions observation utilizing Method 9 is required, the results shall be documented using the ADEM visible emissions observations report. The records shall be maintained in a form suitable for inspection and kept on site for a period of five (5) years from the date of generation.

Rule 335-3-16-.05(c)

- A semi-annual monitoring report stating any exceedances of stack opacity or pressure differential and any deviations from work practice standards or, if there are no deviations, a statement that there were no deviations, shall be submitted to the Department within sixty (60) days of the end of each semi-annual reporting period as determined by the anniversary dates of the permits.

Rule 335-3-16-.05(c)

Emergency Engine

This facility contains a 35 kW spark ignition (SI) emergency generator manufactured in November 2003. This engine only uses natural gas for fuel.

Applicability

- This unit is subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- This unit is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01(1)

- This unit is a stationary RICE at a major source for HAP and is subject to the applicable requirements of 40 CFR 63 Subpart ZZZZ, “*National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines*”.

40 CFR 63 Subpart ZZZZ, §63.6590(a)(1)(ii)

- This unit is subject to the applicable requirements of Subpart A of 40 CFR Part 63, “*General Provisions*”, as listed in Table 8 of Subpart ZZZZ.

40 CFR 63 Subpart ZZZZ

- This unit was manufactured before January 1, 2009, and therefore is not subject to the applicable requirements of 40 CFR 60 Subpart JJJJ, “*Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*”.

40 CFR 60 Subpart JJJJ, §60.4230(a)(2)(ii)

Emissions Standards

Opacity:

- **Rule 335-3-4-.01(1)(a)** states that no person shall emit to the atmosphere from any source of emissions, particulate matter of an opacity greater than twenty percent (20%) over a six (6) minute period. **Rule 335-3-4-.01(1)(b)** states that during one six minute period in any sixty minute period a person may discharge into the atmosphere from any source of emissions, particulate of an opacity not greater than that designated as forty percent (40%) opacity. This operation would be subject to this regulation.

Rule 335-3-4-.01

- This unit is subject to the applicable requirements listed in Table 2c of 40 CFR 63 Subpart ZZZZ, “*National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*”.

40 CFR 63 Subpart ZZZZ, §63.6602

- The Permittee must operate and maintain this unit according to the manufacturer’s emission related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

40 CFR 63 Subpart ZZZZ, §63.6625(e)(2)

- This unit shall be equipped with a non-resettable hour-meter.

40 CFR 63 Subpart ZZZZ, §63.6625(f)

- This unit may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of this unit is limited to 100 hours per year. There is no time limit on the use of this unit in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. This unit may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situation for 50 hours per year, as permitted in 40 CFR 63 Subpart ZZZZ, is prohibited.

40 CFR 63 Subpart ZZZZ, §63.6640(f)

- During periods of startup, the facility must minimize the engines’ time spent at idle and minimize the engines’ startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

40 CFR 63 Subpart ZZZZ, §63.6625(h) and Table 2c

Expected Emissions

- According to the application, potential emissions are based on AP-42 emission factors.

Source #	Pollutant	Emission Rate	
		lb/hr	TPY
35 kW SI Emergency Generator	PM	9.17E-6	2.29E-6
	SO ₂	7.0E-5	1.75E-5
	CO	0.038	9.43E-3
	VOC	0.014	3.51E-3
	NO _x	0.49	0.12
	Formaldehyde	6.28E-3	1.57E-3
	HAP _{total}	6.43E-3	1.61E-3

Compliance and Performance Test Methods and Procedures

- Method 9 of 40 CFR 60, Appendix A, shall be used in the determination of opacity.

Rule 335-3-1-.05

Periodic Monitoring and Compliance Assurance Monitoring (CAM)

- The facility must comply with the requirements of 40 CFR 63 Subpart ZZZZ Table 2c for emergency stationary SI RICE at a major source of HAP emissions. These requirements are:
 - Change oil and filter every 500 hours of operation or annually, whichever comes first.
 - Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.
 - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

40 CFR 63 Subpart ZZZZ, Table 2c and §63.6602

- If an oil analysis program is utilized for a stationary spark ignition engine, the Permittee must perform the oil analysis at the same frequency specified above for changing the oil. The Permittee must at a minimum analyze the following parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new, viscosity of the oil when new, viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new, or percent water content (by volume) is greater than 0.5. If any of the limits are exceeded, the Permittee must change the oil within 2 business days of receiving the results of the analysis or before commencing operation, whichever is later.

40 CFR 63 Subpart ZZZZ, §63.6625(i)

- If an oil analysis program is utilized for a stationary spark ignition engine, the Permittee must perform the oil analysis at the same frequency specified above for changing the oil. The Permittee must at a minimum analyze the following parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the facility is not required to change the oil. If any of the limits are exceeded, the facility must change the oil within 2 business days of receiving the results of the analysis. If the engine is not in operation when the results of the analysis are received, the facility must change the oil within 2 business days or before commencing operation, whichever is later.

40 CFR 63 Subpart ZZZZ, §63.6625(j)

- This unit does not emit criteria pollutants in excess of 100 TPY. Thus, CAM is not applicable.

Recordkeeping and Reporting Requirements

- Records must be kept in a suitable form for review for five (5) years, following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

40 CFR 63 Subpart ZZZZ, §63.6660(b)

- The Permittee must keep records of the parameters that are analyzed as part of the oil analysis program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

40 CFR 63 Subpart ZZZZ, §63.6625(i) & (j)

- The Permittee must keep records of the maintenance conducted on this unit in order to demonstrate that the operation and maintenance of this unit and after-treatment control devices (if any) are conducted according to the facility's maintenance plan or according to manufacturer's written instruction.

40 CFR 63 Subpart ZZZZ, §63.6655(e)

- The Permittee must keep records of the hours of operation of each engine that is recorded through the non-resettable hour meter. The facility must document how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours are spent for non-emergency operation. If the unit is

used for emergency purposes, the facility must keep records of the notification of the emergency situation and the date, start time, and end time of engine operation for these purposes.

40 CFR 63 Subpart ZZZZ, §63.6655(f)

Recommendations

Based on the above analysis, I recommend that, pending the 30-day public comment period and the 45-day EPA review period, Dal-Tile be issued a renewal for Major Operating Permit No. 404-0007. The facility should be able to meet the requirements of this permit and all applicable state and federal air pollution regulations.

Haley K. Crumpton
Industrial Minerals Section
Energy Branch
Air Division

July 20, 2021
Date

APPENDIX

40 CFR 64

Compliance Assurance Monitoring (CAM) Requirements

CAM Plan for Baghouses at Emission Points EP-1 and EP-2

	Parameter No.1	Parameter No. 2
<u>I. Indicator</u>	Visible Emissions (VE)	Pressure Differential (ΔP)
A. Measurement Approach	<p>1. Trained and qualified personnel shall perform a daily VE inspection. If instantaneous visible emissions in excess of ten (10%) percent opacity are observed, a visible emissions observation shall be conducted within 30 minutes in accordance with 40 CFR 60, Appendix A, Method 9.</p>	<p>1. A properly maintained and operated device shall be utilized to measure ΔP across each baghouse daily. The device shall be located at eye level and be easily accessible for inspections by Air Division and plant personnel.</p>
<u>II. Indicator Range</u>	<p>1. While the unit is in operation, an excursion is defined as an average opacity during the Method 9 visible emission observation which exceeds ten (10%) percent.</p> <p>2. Excursions trigger an inspection, corrective action, and a reporting requirement.</p> <p>3. Corrective action must be initiated within two (2) hours following an excursion.</p>	<p>1. While the baghouses controlling Crusher Lines No. 1 and Line #2 are operating, an excursion is defined as a ΔP of less than 3.0 inches H₂O or greater than 6.0 inches H₂O.</p> <p>2. Excursions trigger an inspection, corrective action, and a reporting requirement.</p> <p>3. When a pressure drop excursion occurs, corrective action must be initiated within two (2) hours to identify and correct the problem.</p>
<u>III. Performance Criteria</u>		

A. Data Representativeness	1. Inspections shall be made at the baghouse. Visual observations performed at emission points (baghouse exhaust stack EP-1 & EP-2).	1. ΔP on gauge is the measurement of the pressure differential between inlet and outlet of the baghouse. The minimum accuracy of the device is ± 0.5 in. H ₂ O.
B. Verification of Operating Status	N/A	N/A
(1) QA/QC Practices and Criteria	1. Trained and qualified personnel shall perform the visible inspection.	1. The differential pressure gauge shall be calibrated annually. Pressure taps checked weekly for plugging.
C. Monitoring Frequency	1. Visible emissions observation shall be made daily while each unit is in operation.	1. ΔP is measured daily while each unit is in operation.
D. Data Collection Procedures	1. Manual log entries based on daily VE observation. Observation will be recorded along with the date, time, emission point designation, name of the observer, expiration date of observer's certification, observed opacity, and any corrective actions taken. An inspection and cleaning of baghouse shall be done at least annually. Any required maintenance shall be recorded and maintained on site.	1. Manual log entries based on gauge readings. ΔP will be recorded daily along with the date, time, and name of the observer.
E. Averaging Period	1. VE observations are instantaneous. If a	1. ΔP readings are instantaneous.

	Method 9 is required, then observations are a six (6) minute average.	
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CAM Plan for Baghouse for Tile Edge Grinder (EP-10)

	Parameter No.1	Parameter No. 2
I. <u>Indicator</u>	Visible Emissions (VE)	Pressure Differential (ΔP)
B. Measurement Approach	1. Trained and qualified personnel shall perform a weekly VE inspection. If any visible emissions are noted, a visible emissions observation shall be conducted within 30 minutes in accordance with 40 CFR 60, Appendix A, Method 9.	1. A properly maintained and operated device shall be utilized to measure ΔP across each baghouse weekly. The device shall be located at eye level and be easily accessible for inspections by Air Division and plant personnel.
II. <u>Indicator Range</u>	<p>1. While the unit is in operation, an excursion is defined as an average opacity during the Method 9 visible emission observation which exceeds ten (10%) percent.</p> <p>2. Excursions trigger an inspection, corrective action, and a reporting requirement.</p> <p>3. Corrective action must be initiated within two (2) hours following an excursion.</p>	<p>1. While the baghouse controlling the Tile Edge Grinder is operating, an excursion is defined as a ΔP of less than 1.0 inches H₂O or greater than 6.0 inches H₂O.</p> <p>2. Excursions trigger an inspection, corrective action, and a reporting requirement.</p> <p>3. When a pressure drop excursion occurs, corrective action must be initiated within two (2) hours to identify and correct the problem.</p>
III. <u>Performance Criteria</u>		
F. Data Representativeness	1. Inspections shall be made at the baghouse. Visual observations	1. ΔP on gauge is the measurement of the pressure differential

	performed at emission points (baghouse exhaust stack).	between inlet and outlet of the baghouse. The minimum accuracy of the device is ± 0.5 in. H ₂ O.
G. Verification of Operating Status	N/A	N/A
(2) QA/QC Practices and Criteria	1. Trained and qualified personnel shall perform the visible inspection.	1. The differential pressure gauge shall be calibrated quarterly. Pressure taps checked weekly for plugging.
H. Monitoring Frequency	1. Visible emissions observation shall be made weekly while each unit is in operation.	1. ΔP is measured weekly while the unit is in operation.
I. Data Collection Procedures	1. Manual log entries based on weekly VE observation. Observation will be recorded along with the date, time, emission point designation, name of the observer, expiration date of observer's certification, observed opacity, and any corrective actions taken. An inspection and cleaning of baghouse shall be done at least annually. Any required maintenance shall be recorded and maintained on site.	1. Manual log entries based on gauge readings. ΔP will be recorded weekly along with the date, time, and name of the observer.
J. Averaging Period	1. VE observations are instantaneous. If a Method 9 is required,	1. ΔP readings are instantaneous.

	then observations are a six (6) minute average.	
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