

**Preconstruction Analysis  
for  
MS INDUSTRIES II, LLC  
FACILITY NO. 704-0027  
UNITS X001, X002, X003, & X004**

MS Industries II, LLC (MSI) of Town Creek, Alabama, has applied to the ADEM – Air Division for an Air Permit which would authorize the construction and operation of a sand drying, crushing, screening, and loading facility to be located at 430 Walnut Gate Road, Russellville in Franklin County.

MSI is applying for permits for the following circuits:

X001: (1) 200 TPH Dryer with Conveyors

(1) Baghouse

X002: (4) 50 TPH Screens with Conveyors and (5) Raw Storage Tanks

(7) Baghouses and (5) Bin Vents

X003: (2) 50 TPH Ball Mill Systems with Conveyors, (2) 80 Ton Silos/Fringe Bins, (2) Raw Feed Day Bins, and (5) Finished Storage Tanks/Silos

(10) Baghouses and (5) Bin Vents

X004: (3) 50 TPH Telescoping Spout Loadout Systems with Conveyors and (3) Loadout Storage Tanks

(6) Baghouses and (3) Bin Vents

**Project description (X001, X002, X003, X004)**

This facility would stockpile crushed sandstone (sand) processed at a separate location. The facility would utilize a Barber Green dryer with a maximum production capacity of 200 TPH. The process would involve sand being fed into a hopper by a front-end loader and conveyed to the rotary dryer. The sand would be dried, conveyed, and screened. Desired product would be conveyed to Raw Storage Tanks 1, 2, 3, 4, and 5. Material from Raw Storage Tanks 1, 2, 3, 4, and 5 would be conveyed to finished storage tanks. Material from Raw Storage Tanks 3, 4, and 5 could be conveyed to one of two ball mills for size reduction before being conveyed back to the finished storage tanks. Material from Finished Storage Tanks 6, 7, 8, 9, and 10, would be conveyed to loadout storage tanks for transfer to railcar or truck for delivery. Material from Finished Storage Tanks 6, 7, and 8 could be conveyed back to the Ball Mill Circuit for further size reduction. This facility would utilize baghouses, bin vents, mill sweeps, and separator filters as pollution control devices. The baghouses and bin vents are designed to be capable of removing particulate matter with an efficiency of 99.8%. The mill sweeps and separator filters are designed to be capable of removing particulate matter with an efficiency of 99.5%.

**X001: (1) 200 TPH Dryer with Conveyors and (1) Baghouse**

**Proposed Equipment for X001(fugitive emission sources):**

(1) 200 TPH Dryer with Conveyors

(1) Baghouse:

<i>Manufacturer</i>	<i>Type</i>	<i>Max. Op. Capacity</i>	<i>Manufacturer's Date</i>	<i>NSPS/SIP</i>	<i>Testing?</i>
Shop Built BMSI, Inc.	Receiving Hopper (D-1)	200 TPH	2016	SIP	No
Metso	Vibrating Feeder (D-2)	200 TPH	2016	NSPS 7% Opacity	Yes
SMCo.	Belt Conveyor (D-3)	200 TPH	2016	NSPS 7% Opacity	Yes
Shop Built BMSI, Inc.	Feed Hopper (D-4)	200 TPH	2016	NSPS 7% Opacity	Yes

The fugitive emission sources utilized in Circuit X001 were manufactured after August 31, 1983, the applicability date of the federal New Source Performance Standards, Subpart OOO (NSPS-OOO) for Nonmetallic Mineral Processing Plants; therefore, as applicable, the equipment in this circuit would be subject to SIP or NSPS-OOO. All NSPS-OOO equipment would be subject to the limitations and opacity limits for fugitive emissions according to the 40 CFR Part 60, Subpart OOO, applicability date, April 22, 2008. MSI contends that these fugitive sources will not require any type of emissions control equipment to meet the applicable NSPS-OOO emissions limit due to material saturation. Air Division staff will confirm compliance with the applicable standard by observing the unit in operation. Since no wet suppression is being utilized on this equipment, the applicable fugitive emission sources in X001 will be subject to the five year interval retest requirement.

For equipment manufactured on or after April 22, 2008, this NSPS limits visible emissions from uncontrolled crushers to 12% opacity and limits visible emissions from grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations, or from any other affected facility to 7% opacity. Wet processes are exempt from regulation by this subpart. In addition to the opacity requirements, there are periodic monitoring and testing requirements, as well as recordkeeping requirements to remain in compliance with NSPS Subpart OOO, as promulgated on April 28, 2009. Monthly inspections are required for all spray nozzles in wet suppression areas and for areas controlled by carry over moisture from upstream wet suppression. If inspections of the upstream spray nozzles are not conducted, the carry over areas will be subject to the five year interval retest requirement. All areas not controlled by wet suppression or carry over shall be required to retest every five years. Records of all periodic monitoring inspections, dates, results, and any corrective action taken shall be kept at the facility site, available for inspection.

**Proposed Equipment for X001:**

(1) 200 TPH Dryer with Conveyors

(1) Baghouse

<i>Manufacturer</i>	<i>Type</i>	<i>Max. Op.</i>	<i>Manufacturer's</i>	<i>Emission</i>	<i>Control</i>
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		<i>Capacity</i>	<i>Date</i>	<i>Point</i>	<i>Device</i>
Barber Green	Rotary Dryer (D-5)	200 TPH	Est. 1980	E4	DB-01
Metso	Screw Conveyor (D-6)	5 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-7)	5 TPH	2016	N/A	N/A
Shop Built BMSI, Inc.	Belt Conveyor (D-8 Inlet)	200 TPH	2016	E4	DB-01

The baghouse emission sources utilized in Circuit X001 were manufacture prior to and after August 31, 1983, the applicability date of the federal New Source Performance Standards, Subpart OOO (NSPS-OOO) for Nonmetallic Mineral Processing Plants. The original oil fired burner in this circuit has been replaced with a new natural gas fired burner, and inlet emissions from Conveyor D8 are routed to the dryer baghouse (DB-01); therefore, all equipment in this circuit ducted to this baghouse would be subject to the most stringent NSPS-OOO limits. This NSPS limits stack emissions for affected facilities with capture systems to 0.014 gr/dscf and 0% opacity unless a different baghouse specific success level is established during compliance testing. Periodic monitoring of the baghouse would be required as indicated in Table 2 to Subpart OOO of Part 60 – Stack Emission Limits for Affected Facilities With Capture Systems.

The new burner would be fueled by natural gas only. MSI would be required to successfully complete Method 5 and Method 9 compliance tests while utilizing natural gas to fire the burner. Proviso 25 would limit the dryer to the use of natural gas only. The ~1980 Barber Green Dryer is exempt from 40 CFR Subpart UUU, because it does not meet the definition of reconstruction.

The dryer would produce a maximum potential of 33 TPY of NO<sub>x</sub> emissions and 27.7 TPY of CO. SO<sub>2</sub> emissions would be negligible due to the exclusive use of only natural gas to fire the burner in Circuit X001.

**Proposed Equipment for Circuit X002:**

- (4) 50 TPH Screens with Conveyors and (5) Raw Storage Tanks
- (7) Baghouses and (5) Bin Vents

<i>Manufacturer</i>	<i>Type</i>	<i>Max. Op. Capacity</i>	<i>Manufacturer's Date</i>	<i>Emission Point</i>	<i>Control Device</i>
Shop Built BMSI, Inc.	Belt Conveyor (D-8 Discharge)	200 TPH	2016	E5	DF-01
Shop Built BMSI	Distribution Bin (D-9)	200 TPH	2016	E5	DF-01
Shop Built BMSI	Screw Conveyor (D-10)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-11)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-12)	50 TPH	2016	N/A	N/A
Shop Built	Screw Conveyor	50 TPH	2016	N/A	N/A

BMSI	(D-13)				
Rotex Mineral Separator	Screen (D-14)	50 TPH	2009	E5	DF-01
Rotex Mineral Separator	Screen (D-15)	50 TPH	2009	E5	DF-01
Rotex Mineral Separator	Screen (D-16)	50 TPH	2013	E5	DF-01
Rotex Mineral Separator	Screen (D-17)	50 TPH	2013	E5	DF-01
Shop Built BMSI	Screw Conveyor (D-18)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-19)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-20)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-21)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Belt Conveyor (D-22)	80 TPH	2016	E7	DF-02
Shop Built BMSI	Belt Conveyor (D-23)	120 TPH	2016	E7	DF-02
Shop Built BMSI	Bucket Elevator (D-26)	80 TPH	2016	E8	DF-03
Shop Built BMSI	Bucket Elevator (D-27)	120 TPH	2016	E9	DF-04
Shop Built BMSI	Screw Conveyor (D-28)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-29)	50 TPH	2016	N/A	N/A
SCAFCO, Inc.	Raw Storage Tank 1 (D-30)	120 TPH	2016	E10	BVF-01
SCAFCO, Inc.	Raw Storage Tank 2 (D-31)	120 TPH	2016	E11	BVF-02
SCAFCO, Inc.	Raw Storage Tank 3 (D-32)	120 TPH	2016	E12	BVF-03
SCAFCO, Inc.	Raw Storage Tank 4 (D-33)	80 TPH	2016	E13	BVF-04
SCAFCO, Inc.	Raw Storage Tank 5 (D-34)	80 TPH	2016	E14	BVF-05
Shop Built BMSI	Belt Conveyor (D-35)	50 TPH	2016	E16	DF-05
Shop Built BMSI	Belt Conveyor (D-36)	50 TPH	2016	E15	DF-06
Shop Built BMSI	Belt Conveyor (D-37)	50 TPH	2016	E33	DF-07

The equipment utilized in Circuit X002 was manufactured after August 31, 1983, the applicability date of the federal New Source Performance Standards, Subpart OOO (NSPS-OOO) for Nonmetallic Mineral Processing Plants; therefore, the equipment in this circuit would be subject to NSPS-OOO. All NSPS-OOO equipment would be subject to the limitations and opacity limits for stack emissions according to the 40 CFR Part 60, Subpart OOO, applicability

date, April 22, 2008. This NSPS limits stack emissions for affected facilities with capture systems to 0.014 gr/dscf and 0% opacity unless a different baghouse specific success level is established during compliance testing. Periodic monitoring of the baghouse would be required as indicated in Table 2 to Subpart OOO of Part 60—Stack Emission Limits for Affected Facilities With Capture Systems.

**Proposed Equipment for Circuit X003 (fugitive emission sources):**

(2) 50 TPH Ball Mill Systems with Conveyors, (2) 80 Ton Silos/Fringe Bins, (2) Raw Feed Day Bins, and (5) Finished Storage Tanks/Silos  
 (10) Baghouses and (5) Bin Vents

<i>Manufacturer</i>	<i>Type</i>	<i>Max. Op. Capacity</i>	<i>Manufacturer's Date</i>	<i>NSPS/SIP</i>	<i>Testing?</i>
Shop Built BMSI, Inc.	Silo/Fringe Bin (D68)	80 TPH	2016	NSPS 7% Opacity	Yes
Shop Built BMSI, Inc.	Silo/Fringe Bin (D78)	80 TPH	2016	NSPS 7% Opacity	Yes

The fugitive emission sources utilized in Circuit X003 were manufactured after August 31, 1983, the applicability date of the federal New Source Performance Standards, Subpart OOO (NSPS-OOO) for Nonmetallic Mineral Processing Plants; therefore, the equipment in this circuit would be subject to NSPS-OOO. All NSPS-OOO equipment would be subject to the limitations and opacity limits for fugitive emissions according to the 40 CFR Part 60, Subpart OOO, applicability date, April 22, 2008. MSI contends that these fugitive sources will not require any type of emissions control equipment to meet the applicable NSPS-OOO emissions limit. Air Division staff will confirm compliance with the applicable standard by observing the unit in operation. Since no wet suppression is being utilized on this equipment, the applicable fugitive emission sources in X003 will be subject to the five year interval retest requirement.

For equipment manufactured on or after April 22, 2008, this NSPS limits visible emissions from uncontrolled crushers to 12% opacity and limits visible emissions from grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations, or from any other affected facility to 7% opacity. Wet processes are exempt from regulation by this subpart. In addition to the opacity requirements, there are periodic monitoring and testing requirements, as well as recordkeeping requirements to remain in compliance with NSPS Subpart OOO, as promulgated on April 28, 2009. Monthly inspections are required for all spray nozzles in wet suppression areas and for areas controlled by carry over moisture from upstream wet suppression. If inspections of the upstream spray nozzles are not conducted, the carry over areas will be subject to the five year interval retest requirement. All areas not controlled by wet suppression or carry over shall be required to retest every five years. Records of all periodic monitoring inspections, dates, results, and any corrective action taken shall be kept at the facility site, available for inspection.

**Proposed Equipment for Circuit X003:**

(2) 50 TPH Ball Mill Systems with Conveyors, (2) 80 Ton Silos/Fringe Bins, (2) Raw Feed Day Bins, and (5) Finished Storage Tanks/Silos  
 (10) Baghouses and (5) Bin Vents

<i>Manufacturer</i>	<i>Type</i>	<i>Max. Op. Capacity</i>	<i>Manufacturer's Date</i>	<i>Emission Point</i>	<i>Control Device</i>
Shop Built BMSI	Bucket Elevator (D-39)	50 TPH	2016	EP18	DF-10
Shop Built BMSI	Bucket Elevator (D-40)	50 TPH	2016	EP17	DF-08
Shop Built BMSI	Day Bin (D-41)	50 TPH	2016	EP17	DF-08
Shop Built BMSI	Day Bin (D-42)	50 TPH	2016	EP18	DF-10
Metso	Belt Weigh Feeder (D-43)	50 TPH	2016	N/A	N/A
Metso	Belt Weigh Feeder (D-44)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-45)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-46)	50 TPH	2016	N/A	N/A
KVS	Ball Mill System (D-47)	50 TPH	1976	EP21	710DC
Shop Built BMSI	Air Gravity Conveyor (D-48)	50 TPH	2016	N/A	N/A
KVS	Ball Mill System (D-49)	50 TPH	1976	EP25	610DC
Shop Built BMSI	Air Gravity Conveyor (D-50)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-51)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-52)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-53)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Belt Conveyor (D-54)	50 TPH	2016	E27	DF-09
Shop Built BMSI	Belt Conveyor (D-55)	50 TPH	2016	E26	DF-11
Shop Built BMSI	Separator (D-56)	50 TPH	1980	E19	721DC
Shop Built BMSI	Air Gravity Conveyor (D-57)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-58)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-59)	50 TPH	2016	N/A	N/A

Shop Built BMSI	Screw Conveyor (D-60)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Slide Conveyor (D-61)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Slide Conveyor (D-62)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Bucket Elevator (D-63)	50 TPH	2016	E23	DF-14
Shop Built BMSI	Air Gravity Conveyor (D-64)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-65)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-66)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-67)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Slide Conveyor (D-69)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Slide Conveyor (D-70)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Slide Conveyor (D-71)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-72)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-73)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-74)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-75)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-76)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D-77)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Bucket Elevator (D-79)	50 TPH	2016	E42	DF-15
Shop Built BMSI	Air Gravity Conveyor (D-80)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-81)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-82)	50 TPH	2016	N/A	N/A
Shop Built	Air Gravity	50 TPH	2016	N/A	N/A

BMSI	Conveyor (D-83)				
Shop Built BMSI	Air Gravity Conveyor (D-84)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-85)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-86)	50 TPH	2016	N/A	N/A
Unknown presently	Separator (D-87)	50 TPH	2016	E20	621DC
Shop Built BMSI	Air Gravity Conveyor (D-88)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-89)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Bucket Elevator (D-90)	50 TPH	2016	E26	DF-11
Shop Built BMSI	Bucket Elevator (D-91)	50 TPH	2016	E27	DF-09
Shop Built BMSI	Air Gravity Conveyor (D-92)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-93)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-94)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D-95)	50 TPH	2016	N/A	N/A
SCAFCO, Inc.	Finished Storage Tank/Silo 10 (D-96)	50 TPH	2016	E28	BVF-10
SCAFCO, Inc.	Finished Storage Tank/Silo 9 (D-97)	50 TPH	2016	E29	BVF-09
SCAFCO, Inc.	Finished Storage Tank/Silo 8 (D-98)	50 TPH	2016	E30	BVF-08
SCAFCO, Inc.	Finished Storage Tank/Silo 7 (D-99)	50 TPH	2016	E31	BVF-07
SCAFCO, Inc.	Finished Storage Tank/Silo 6 (D-100)	50 TPH	2016	E32	BVF-06

The equipment utilized in Circuit X003 would be subject to the federal New Source Performance Standards, Subpart OOO (NSPS-OOO) for Nonmetallic Mineral Processing Plants. All NSPS-OOO equipment would be subject to the limitations and opacity limits for stack emissions according to the 40 CFR Part 60, Subpart OOO, applicability date, April 22, 2008. This NSPS limits stack emissions for affected facilities with capture systems to 0.014 gr/dscf and 0% opacity unless a different baghouse specific success level is established during compliance testing. Periodic monitoring of the baghouse would be required as indicated in Table 2 to Subpart OOO of 40 CFR Part 60—Stack Emission Limits for Affected Facilities With Capture Systems.

**Proposed Equipment for Circuit X004:**

(3) 50 TPH Telescoping Spout Loadout Systems with Conveyors and (3) Loadout Storage Tanks  
(6) Baghouses and (3) Bin Vents

Manufacturer	Type	Max. Op. Capacity	Manufacturer's Date	Emission Point	Control Device
Shop Built BMSI	Belt Conveyor (D38)	50 TPH	2016	E43	DF-13
Shop Built BMSI	Air Gravity Conveyor (D101)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D102)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D103)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D104)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D105)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D106)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D107)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D108)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Belt Conveyor (D109 Inlet)	50 TPH	2016	E43	DF-13
Shop Built BMSI	Belt Conveyor (D109 Discharge)	50 TPH	2016	E34	DF-12
Shop Built BMSI	Bucket Elevator (D110)	50 TPH	2016	E34	DF-12
Shop Built	Bucket Elevator	50 TPH	2016	E35	DF-18

BMSI	(D111)				
Shop Built BMSI	Air Gravity Conveyor (D112)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D113)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D114)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Loadout Tank 3 (D115)	50 TPH	2016	E36	BVF-13
Shop Built BMSI	Loadout Tank 2 (D116)	50 TPH	2016	E37	BVF-12
Shop Built BMSI	Loadout Tank 1 (D117)	50 TPH	2016	E38	BVF-11
Shop Built BMSI	Air Gravity Conveyor (D118)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Air Gravity Conveyor (D119)	50 TPH	2016	N/A	N/A
Shop Built BMSI	Screw Conveyor (D120)	50 TPH	2016	N/A	N/A
Vortex	Telescoping Spout (D121)	50 TPH	2016	E39	DF-16
Vortex	Telescoping Spout (D122)	50 TPH	2016	E40	DF-17
*Vortex	Telescoping Spout (D123)	50 TPH	2016	E41	DF-19

\*Denotes future equipment

The equipment utilized in Circuit X004 was manufactured after August 31, 1983, the applicability date of the federal New Source Performance Standards, Subpart OOO (NSPS-OOO) for Nonmetallic Mineral Processing Plants; therefore, the equipment in this circuit would be subject to NSPS-OOO. All NSPS-OOO equipment would be subject to the limitations and opacity limits for stack emissions according to the 40 CFR Part 60, Subpart OOO, applicability date, April 22, 2008. This NSPS limits stack emissions for affected facilities with capture systems to 0.014 gr/dscf and 0% opacity unless a different baghouse specific success level is established during compliance testing. Periodic monitoring of the baghouse would be required as indicated in Table 2 to Subpart OOO of 40 CFR Part 60—Stack Emission Limits for Affected Facilities With Capture Systems.

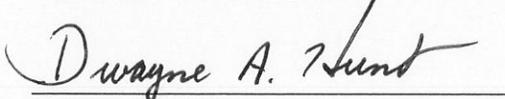
Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from NSPS-OOO. Grizzly feeders associated with the truck dumping and static (non-moving) grizzlies used anywhere in the nonmetallic mineral processing plant are not considered to be screening operations and are exempt from NSPS-OOO.

This facility would be located within 100 km of the Sipsy Class I Wilderness Area but not within the Jefferson/Shelby County Maintenance Area for ozone and PM<sub>2.5</sub>. The construction and operation of this circuit is not anticipated to significantly impact these areas.

This facility would not be considered "major" for any criteria pollutant and, therefore, is not required to undergo the PSD process. However, this facility has a potential (allowable) Particulate Matter emission rate of 159.10 TPY. Facility representatives have requested a synthetic minor operating limitation of 5400 hours per year (rolling average) to restrict the potential to emit for Particulate Matter below the Title V Major Source applicability threshold of 100 TPY. Emissions are summarized in Attachment A.

In order to solicit public input regarding the Department's preliminary determination that Air Permits be issued to MSI, a 15-day public input period will be initiated.

Based on the information submitted by MSI, this analysis indicates that this proposed source would meet the requirements of all ADEM - Air Division rules and regulations. Therefore, I recommend that Air Permits be issued to MS Industries II, LLC incorporating the provisos of Appendix B and Appendix C, which is the cover letter.



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Dwayne A. Hunt  
Energy Branch  
Air Division

**September 7, 2016**

Appendix A  
Calculations for  
MS Industries II, LLC  
704-0027  
Units X001, X002, X003, and X004

**Particulate Emissions Summary**

**Potential (Allowable) Emissions (PM)**

Unit X001	22.6 TPY
Unit X002	29.6 TPY
Unit X003	92.9 TPY
<u>Unit X004</u>	<u>14.0 TPY</u>

**TOTAL            159.10 TPY**

**Restricted Potential (Allowable) Emissions (PM) at 5400 hrs.**

Unit X001	13.93 TPY
Unit X002	18.25 TPY
Unit X003	57.27 TPY
<u>Unit X004</u>	<u>8.63 TPY</u>

**TOTAL            98.08 TPY**

**Expected Emissions (PM) at 5400 hrs.**

Unit X001	3.70 TPY
Unit X002	2.06 TPY
Unit X003	1.76 TPY
<u>Unit X004</u>	<u>0.72TPY</u>

**TOTAL            8.24 TPY**

By definition, fugitive emissions from this process would not be considered in determining Title V or PSD applicability.

**Proposed Equipment for X001 (1) 200 TPH Dryer with Conveyors and (1) Baghouse (fugitive emission sources)**

(D1, D2, D3, D4)

*Equipment:*            Hoppers, feeder, and conveyor

*Hours of Operation:* Requested SMOP limit of 5400 hours/year

*Pollution Control:*    No controls (material saturation)

**Allowable Emission:** There is no allowable particulate emission rate limiting fugitive emissions for any of these processes.

**Uncontrolled Emissions:** Emission factor taken from EPA - 600/2-78-004E

Conveying: 0.32 g/Met T

$$\frac{200 \text{ T}}{\text{hr}} \times \frac{0.32 \text{ g}}{\text{Met T}} \times \frac{0.907 \text{ Met T}}{\text{T}} \times \frac{\text{Lb}}{453.6 \text{ g}} = 0.13 \text{ lbs/hr}$$

$$0.13 \text{ lbs/hr} \times 4 \text{ (2 hoppers, 1 feeder, 1 belt conveyor)} = \mathbf{0.52 \text{ lbs/hr}}$$

**Total Uncontrolled Emissions:**

Conveying	0.52 lbs/hr	
<b>Total</b>	<b>0.52 lbs/hr</b>	<b>OR 2.3 TPY at 8760 hrs/yr</b>

**Total Controlled Emissions:** Since no wet suppression would be utilized on any of the equipment, the controlled would be equal to or less than the uncontrolled emissions, depending upon the saturation of the material.

**Expected Emissions:** Based on 5400 Hours of Operation (SMOP limit)

$$\frac{0.52 \text{ lbs}}{\text{Hr}} \times \frac{5400 \text{ hrs}}{\text{Yr}} \times \frac{1 \text{ T}}{2000 \text{ lbs}} = \mathbf{1.40 \text{ TPY}}$$

**Proposed Equipment for X001: 200 TPH Drying/Conveying Circuit with Baghouse (Baghouse DB-01 stack)**

(D5, D8)

*Type Process:* Sand Drying and Conveying With Baghouse

*Capacity:* Max. Capacity of 200 TPH

*Control Device:* Dryer Baghouse (DB-01)

*Flow Rate:* ACFM: 41,000  
 Efficiency: 99.8 %  
 Temperature: 105°F  
 Moisture: 0.25%

*Operating Hours:* Requested SMOP limit of 5400 hours/year

*Fuel Type:* Natual Gas

## Emissions Calculations

### Dryer/Conveyor Emissions (Emission Point E4)

MSI has proposed natural gas as the only fuel to fire the burner, with no backup. The original oil fired burner in this circuit has been replaced with a new natural gas fired burner, and inlet emissions from Conveyor D8 are routed to the dryer baghouse (DB-01); therefore, the baghouse emissions sources in this circuit would be subject to NSPS-OOO. The dryer is vented to Baghouse DB-01. The dryer would be required to meet the allowable emission rate of  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO because the emissions from the inlet portion of conveyor D8, which was manufacture in 2016, are also vented to the same baghouse (Baghouse DB-01).

### Particulate Emissions (emission point E4)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$41,000 \text{ acfm} = \frac{VS (105 + 460)}{530}$$

$$41,000 \text{ acfm} = VS (1.07)$$

$$VS = 38,318 \text{ scfm}$$

$\frac{38,318 \text{ scf}}{\text{min}}$	$\frac{0.9975 (.25\% \text{ moisture})}{1}$	$= \frac{38,222 \text{ dscf}}{\text{min}}$
$\frac{\leq 0.014 \text{ gr}}{\text{dscf}}$	$\frac{38,222 \text{ dscf}}{\text{min}}$	$\frac{60 \text{ min}}{\text{hr}}$
	$\frac{1 \text{ lb}}{7000 \text{ gr}}$	$= \leq 4.59 \text{ lbs/hr}$

OR

**20.1 TPY @ 8760 hrs/yr**

**Uncontrolled:** Emission Factor of 2.0lb/T from AP-42 Table 11.19.1-1  
Emission Factors For Industrial Sand and Gravel Processing

$\frac{200 \text{ T}}{\text{hr}}$	$\frac{2.0 \text{ lbs}}{\text{T}}$	$= 400 \text{ lbs/hr}$
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OR

1,752 TPY @ 8760 hrs/yr

**Controlled:** 99.8% efficiency

400 lbs	0.002 (99.8% efficiency)	= 0.80 lbs/hr
hr		

OR  
**3.5 TPY @ 8760 hrs/yr**

**Expected:**

0.80 lbs	5400 hrs	1 T	= <b>2.16 TPY</b>
hr	yr	2000 lbs	

*Natural Gas Combustion*

Emission factors taken from AP-42, 7/98 Revision, Table 1.4-1 for natural gas combustion for small boilers.

Burner Size – Direct fired 75.0 MMBtu/hr

Hours of Operation – 8760/year

*Conversion Factor*

75.0 x 10 <sup>6</sup> Btu	1 scf	8760 hrs	=	6.6 x 10 <sup>8</sup> scf/yr
Hr	1000 Btu	yr		

NO<sub>x</sub> Emissions

100 lbs	6.6 x 10 <sup>8</sup> scf	1 T	=	<b>33.0 TPY</b>
10 <sup>6</sup> scf	yr	2000 lbs		

CO Emissions

84 lbs	6.6 x 10 <sup>8</sup> scf	1 T	=	<b>27.7 TPY</b>
10 <sup>6</sup> scf	yr	2000 lbs		

SO<sub>2</sub> Emissions

0.6 lbs	6.6 x 10 <sup>8</sup> scf	1 T	=	<b>0.2 TPY</b>
10 <sup>6</sup> scf	yr	2000 lbs		

VOC Emissions

5.5 lbs	6.6 x 10 <sup>8</sup> scf	1 T	=	<b>1.8 TPY</b>
10 <sup>6</sup> scf	yr	2000 lbs		

Particulate Emissions

7.6 lbs	6.6 x 10 <sup>8</sup> scf	1 T	=	<b>2.5 TPY</b>
10 <sup>6</sup> scf	yr	2000 lbs		

*SO<sub>2</sub> Emissions*

*Allowable:* The burner would be fired by natural gas only. SO<sub>2</sub> emissions would be negligible; therefore, calculations would not be necessary. This company would be limited by Proviso #25 to burn natural gas only.

Summary of Combustion potential emissions:

<b>Pollutant</b>	<b>Lbs/hour</b>	<b>TPY</b>
NO <sub>x</sub>	7.5	33.0
CO	6.3	27.7
SO <sub>2</sub>	0.05	0.2
VOC	0.4	1.8
PM	0.6	2.5

**X002**

**Proposed Equipment for X002 - (4) 50 TPH Screens with 5 storage tanks with 7 baghouses (Stacks DF-01, DF-02, DF-03, DF-04, DF-05, DF-06, DF-07) and (5) Bin Vents (BVF-01, BVF-02, BVF-03, BVF-04, BVF-05)**

**Emissions Calculations**

**1. DF-01 baghouse emissions (emission point E5)**

D8 discharge, D9, D14, D15, D16, D17

Type Process: Sand Screening and Conveying With Baghouse

Capacity: Max. Capacity of 200 TPH

Control Device: Baghouse (DF-01)

Flow Rate: ACFM: 15,200

Efficiency: 99.8 %

Temperature: 100°F

Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

**Particulate Emissions (emission point E5)**

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$15,200 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$15,200 \text{ acfm} = VS (1.06)$$

$$VS = 14,340 \text{ scfm}$$

$\frac{14,340 \text{ scf}}{\text{min}}$	$0.9975$ (.25% moisture)	$= 14,304 \text{ dscf}$		
$\frac{< 0.014 \text{ gr}}{\text{dscf}}$	$\frac{14,304 \text{ dscf}}{\text{min}}$	$\frac{60 \text{ min}}{\text{hr}}$	$\frac{1 \text{ lb}}{7000 \text{ gr}}$	$= < 1.72 \text{ lbs/hr}$

OR  
**7.5 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	200 T	= <b>60 lbs/hr or 262.80 TPY</b> <b>at 8760 hrs/yr</b>
T	hr	

**Controlled:** 99.8% efficiency

60 lbs	0.002 (99.8% efficiency)	= 0.12 lbs/hr
hr		

OR  
**0.53 TPY @ 8760 hrs/yr**

**Expected:**

0.12 lbs	5400 hrs	1 T	= <b>0.32 TPY</b>
hr	yr	2000 lbs	

**2. DF-02 baghouse emissions (emission point E7)**

D22, D23

Type Process: Sand Screening and Conveying With Baghouse

Capacity: Max. Capacity of 200 TPH

Control Device: Baghouse (DF-02)

Flow Rate: ACFM: 10,000  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$10,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$10,000 \text{ acfm} = VS (1.06)$$

VS = 9,434 scfm

9,434 scf min	0.9975 (0.25% moisture)	= 9,410 dscf min		
< 0.014 gr dscf	9,410 dscf min	60 min hr	1 lb 7000 gr	= < <b>1.13 lbs/hr</b>

OR

**4.9 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	200 T hr	= <b>60 lbs/hr or 262.8 TPY at 8760 hrs/yr</b>
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**Controlled:** 99.8% efficiency

60 lbs hr	0.002 (99.8% efficiency)	= 0.12 lbs/hr
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OR

**0.53 TPY @ 8760 hrs/yr**

**Expected:**

0.12 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.32 TPY</b>
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**3. DF-03 baghouse emissions (emission point E8)**

D26

Type Process: Sand Screening and Conveying With Baghouse

Capacity: Max. Capacity of 80 TPH

Control Device: Baghouse (DF-03)

Flow Rate: ACFM: 4,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$4,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$4,500 \text{ acfm} = VS (1.06)$$

$$VS = 4,245 \text{ scfm}$$

4,245 scf min	0.9975 (0.25% moisture)	= 4,234 dscf min		
$< 0.014$ gr dscf	4,234 dscf min	60 min hr	1 lb 7000 gr	= $\leq 0.51$ lbs/hr

OR

**2.2 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	80 T hr	= <b>24 lbs/hr or 105.12 TPY at 8760 hrs/yr</b>		
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**Controlled:** 99.8% efficiency

24 lbs hr	0.002 (99.8% efficiency)	= 0.05 lbs/hr		
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OR

**0.22 TPY @ 8760 hrs/yr**

**Expected:**

0.05 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.14 TPY</b>	
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**4. DF-04 baghouse emissions (emission point E9)**

D27

Type Process: Sand Screening and Conveying With Baghouse

Capacity: Max. Capacity of 120 TPH

Control Device: Baghouse (DF-04)

Flow Rate: ACFM: 4,500  
 Efficiency: 99.8 %  
 Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$4,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$4,500 \text{ acfm} = VS (1.06)$$

$$VS = 4,245 \text{ scfm}$$

4,245 scf min	0.9975 (0.25% moisture)	= 4,234 dscf min		
$\leq 0.014$ gr dscf	4,234 dscf min	60 min hr	1 lb 7000 gr	= $\leq 0.51$ lbs/hr

OR

**2.2 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	120 T hr	= <b>36 lbs/hr or 157.68 TPY at 8760 hrs/yr</b>
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**Controlled:** 99.8% efficiency

$$\frac{36 \text{ lbs}}{\text{hr}} \mid \frac{0.002 (99.8\% \text{ efficiency})}{\text{hr}} \mid = 0.07 \text{ lbs/hr}$$

OR

**0.31 TPY @ 8760 hrs/yr**

**Expected:**

$$\frac{0.07 \text{ lbs}}{\text{hr}} \mid \frac{5400 \text{ hrs}}{\text{yr}} \mid \frac{1 \text{ T}}{2000 \text{ lbs}} \mid = \mathbf{0.19 \text{ TPY}}$$

**5. BVF-01 bin vent emissions (emission point E10)**

D30

Type Process: Sand Screening and Conveying With Bin Vent

Capacity: Max. Capacity of 120 TPH

Control Device: Bin Vent (BVF-01)

Flow Rate: ACFM: 1,000  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,000 \text{ acfm} = VS (1.06)$$

$$VS = 943 \text{ scfm}$$

$$\frac{943 \text{ scf}}{\text{min}} \mid \frac{0.9975 (0.25\% \text{ moisture})}{\text{min}} \mid = \frac{941 \text{ dscf}}{\text{min}}$$

$$\frac{\leq 0.014 \text{ gr}}{\text{dscf}} \mid \frac{941 \text{ dscf}}{\text{min}} \mid \frac{60 \text{ min}}{\text{hr}} \mid \frac{1 \text{ lb}}{7000 \text{ gr}} \mid = \leq \mathbf{0.11 \text{ lbs/hr}}$$

OR  
**0.5 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	120 T	= <b>36 lbs/hr or 157.68 TPY</b>
T	hr	at 8760 hrs/yr

**Controlled:** 99.8% efficiency

36 lbs	0.002 (99.8% efficiency)	= 0.07 lbs/hr
hr		

OR  
**0.32 TPY @ 8760 hrs/yr**

**Expected:**

0.07 lbs	5400 hrs	1 T	= <b>0.19 TPY</b>
hr	yr	2000 lbs	

**6. BVF-02 bin vent emissions (emission point E11)**

D31

Type Process: Sand Screening and Conveying With Bin Vent

Capacity: Max. Capacity of 120 TPH

Control Device: Bin Vent (BVF-02)

Flow Rate: ACFM: 1,000  
 Efficiency: 99.8 %  
 Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Allowable: ≤ 0.014 gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (°F) + 460}{530}$$

$$1,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,000 \text{ acfm} = \text{VS} (1.06)$$

$$\text{VS} = 943 \text{ scfm}$$

943 scf min	0.9975 (0.25% moisture)	= 941 dscf min
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< 0.014 gr dscf	941 dscf min	60 min hr	1 lb 7000 gr	= < <b>0.11 lbs/hr</b>
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OR

**0.5 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	120 T hr	= <b>36 lbs/hr or 157.68 TPY at 8760 hrs/yr</b>
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**Controlled:** 99.8% efficiency

36 lbs hr	0.002 (99.8% efficiency)	= 0.07 lbs/hr
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OR

**0.32 TPY @ 8760 hrs/yr**

**Expected:**

0.07 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.19 TPY</b>
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**7. BVF-03 bin vent emissions (emission point E12)**

D32

Type Process: Sand Screening and Conveying With Bin Vent

Capacity: Max. Capacity of 120 TPH

Control Device: Bin Vent (BVF-03)

Flow Rate: ACFM: 1,000

Efficiency: 99.8 %  
 Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,000 \text{ acfm} = VS (1.06)$$

$$VS = 943 \text{ scfm}$$

943 scf min	0.9975 (0.25% moisture)	= 941 dscf min		
$< 0.014$ gr dscf	941 dscf min	60 min hr	1 lb 7000 gr	= $\leq 0.11$ lbs/hr

OR

**0.5 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	120 T	= <b>36 lbs/hr or 157.68 TPY</b> <b>at 8760 hrs/yr</b>
T	hr	

**Controlled:** 99.8% efficiency

36 lbs	0.002 (99.8% efficiency)	= 0.07 lbs/hr
hr		

OR

**0.32 TPY @ 8760 hrs/yr**

**Expected:**

0.07 lbs	5400 hrs	1 T	= 0.19 TPY
hr	yr	2000 lbs	

**8. BVF-04 bin vent emissions (emission point E13)**

D33

Type Process: Sand Screening and Conveying With Bin Vent

Capacity: Max. Capacity of 80 TPH

Control Device: Bin Vent (BVF-04)

Flow Rate: ACFM: 1,000  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,000 \text{ acfm} = VS (1.06)$$

$$VS = 943 \text{ scfm}$$

943 scf	0.9975 (0.25% moisture)	= 941 dscf
min		min

< 0.014 gr	941 dscf	60 min	1 lb	= $\leq 0.11$ lbs/hr
dscf	min	hr	7000 gr	

OR

**0.5 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	80 T	= 24 lbs/hr or 105.12 TPY at 8760 hrs/yr
T	hr	

**Controlled:** 99.8% efficiency

24 lbs	0.002 (99.8% efficiency)	= 0.05 lbs/hr
hr		

OR  
0.21 TPY @ 8760 hrs/yr

**Expected:**

0.05 lbs	5400 hrs	1 T	= 0.14 TPY
hr	yr	2000 lbs	

**9. BVF-05 bin vent emissions (emission point E14)**

D34

Type Process: Sand Screening and Conveying With Bin Vent

Capacity: Max. Capacity of 80 TPH

Control Device: Bin Vent (BVF-05)

Flow Rate: ACFM: 1,000  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,000 \text{ acfm} = VS (1.06)$$

$$VS = 943 \text{ scfm}$$

943 scf min	0.9975 (0.25% moisture)	= 941 dscf min		
< 0.014 gr dscf	941 dscf min	60 min hr	1 lb 7000 gr	= < <b>0.11 lbs/hr</b>

OR  
**0.5 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	80 T hr	= <b>24 lbs/hr or 105.12 TPY at 8760 hrs/yr</b>
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**Controlled:** 99.8% efficiency

24 lbs hr	0.002 (99.8% efficiency)	= 0.05 lbs/hr
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OR  
**0.21 TPY @ 8760 hrs/yr**

**Expected:**

0.05 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.14 TPY</b>
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**10. DF-05 baghouse emissions (emission point E16)**

D35

Type Process: Sand Screening and Conveying With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-05)

Flow Rate: ACFM: 5,000  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$5,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$5,000 \text{ acfm} = VS (1.06)$$

$$VS = 4717 \text{ scfm}$$

$\frac{4717 \text{ scf}}{\text{min}}$	$0.9975$ (0.25% moisture)	$= 4705 \text{ dscf}$ min		
$\frac{\leq 0.014 \text{ gr}}{\text{dscf}}$	$4705 \text{ dscf}$ min	$60 \text{ min}$ hr	$1 \text{ lb}$ 7000 gr	$= \leq 0.56 \text{ lbs/hr}$

OR

**2.5 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

$\frac{0.30 \text{ lbs}}{\text{T}}$	$50 \text{ T}$ hr	$= 15 \text{ lbs/hr or } 65.7 \text{ TPY}$ at 8760 hrs/yr
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**Controlled:** 99.8% efficiency

$\frac{15 \text{ lbs}}{\text{hr}}$	$0.002$ (99.8% efficiency)	$= 0.03 \text{ lbs/hr}$
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OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

$\frac{0.03 \text{ lbs}}{\text{hr}}$	$5400 \text{ hrs}$ yr	$1 \text{ T}$ 2000 lbs	$= 0.08 \text{ TPY}$
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**11. DF-06 baghouse emissions (emission point E15)**

D36

Type Process: Sand Screening and Conveying With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-05)

Flow Rate: ACFM: 8,000  
 Efficiency: 99.8 %  
 Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$8,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$8,000 \text{ acfm} = VS (1.06)$$

$$VS = 7547 \text{ scfm}$$

7547 scf min	0.9975 (0.25% moisture)	= 7528 dscf min		
$\leq 0.014$ gr dscf	7528 dscf min	60 min hr	1 lb 7000 gr	= $\leq 0.90$ lbs/hr

OR

**3.9 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	50 T hr	= <b>15 lbs/hr or 65.7 TPY at 8760 hrs/yr</b>
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**Controlled:** 99.8% efficiency

15 lbs	0.002 (99.8% efficiency)	= 0.03 lbs/hr
hr		

OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs	5400 hrs	1 T	= <b>0.08 TPY</b>
hr	yr	2000 lbs	

**12. DF-07 baghouse emissions (emission point E33)**

D37

Type Process: Sand Screening and Conveying With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-05)

Flow Rate: ACFM: 8,000  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$8,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$8,000 \text{ acfm} = VS (1.06)$$

$$VS = 7,547 \text{ scfm}$$

7547 scf	0.9975 (0.25% moisture)	= 7528 dscf
min		min

$\leq 0.014$ gr	7528 dscf	60 min	1 lb	= $\leq 0.90$ lbs/hr
dscf	min	hr	7000 gr	

OR  
**3.9 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= <b>15 lbs/hr or 65.7 TPY</b> <b>at 8760 hrs/yr</b>
T	hr	

**Controlled:** 99.8% efficiency

15 lbs	0.002 (99.8% efficiency)	= 0.03 lbs/hr
hr		

OR  
**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs	5400 hrs	1 T	= <b>0.08 TPY</b>
hr	yr	2000 lbs	

**Proposed Equipment for X003 – (2) 50 TPH Ball Mill Systems with Conveyors and (2) 80 Ton Silos/Fringe Bins and (2) Raw Feed Day Bins and (5) Finished Storage Tanks/Silos and (10) Baghouses and (5) Bin Vents (Stacks DF-08, DF-09, DF-10, DF-11, DF14, DF-15, 610DC, 710DC, 621DC, 721DC and Vents BVF-01, BVF-02, BVF-03, BVF-04, BVF-05)**

**Emissions Calculations**

**Proposed Equipment for X003 (fugitive emission sources)**

D68, D78

*Equipment:* Silos

*Hours of Operation:* Requested SMOP limit of 5400 hours/year

*Pollution Control:* No controls (material saturation)

**Allowable Emission:** There is no allowable particulate emission rate limiting fugitive emissions for any of these processes.

**Uncontrolled Emissions:** Emission factor taken from EPA - 600/2-78-004E

Conveying: 0.32 g/Met T

50 T	0.32 g	0.907 Met T	Lb	= 0.03 lbs/hr
hr	Met T	T	453.6 g	

0.03 lbs/hr x 2 (2 silos) = **0.06 lbs/hr**

**Total Uncontrolled Emissions:**

<u>Conveying</u>	0.06 lbs/hr	
<b>Total</b>	<b>0.06 lbs/hr</b>	<b>OR 0.3 TPY at 8760 hrs/yr</b>

**Total Controlled Emissions:** Since no wet suppression would be utilized on any of the equipment, the controlled would be equal to or less than the uncontrolled emissions, depending upon the saturation of the material.

**Expected Emissions:** Based on 5400 Hours of Operation (SMOP limit)

0.6 lbs	5400 hrs	1 T	= <b>0.16 TPY</b>
Hr	Yr	2000 lbs	

**Proposed Equipment for X003 – (2) 50 TPH Ball Mill Systems with Conveyors and (2) 80 Ton Silos/Fringe Bins and (2) Raw Feed Day Bins and (5) Finished Storage Tanks/Silos and (10) Baghouses and (5) Bin Vents (Stacks DF-08, DF-09, DF-10, DF-11, DF14, DF-15, 610DC, 710DC, 621DC, 721DC and Vents BVF-01, BVF-02, BVF-03, BVF-04, BVF-05)**

**1. DF-10 baghouse emissions (emission point E18)**

D39, D42

Type Process: Sand Milling and Conveying With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-10)

Flow Rate: ACFM: 4,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

*Particulate Emissions (emission point E18)*

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$4,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$4,500 \text{ acfm} = VS (1.06)$$

$$VS = 4,245 \text{ scfm}$$

4,245 scf min		0.9975 (.25% moisture)		= 4,234 dscf min
$\leq 0.014$ gr dscf		4,234 dscf min		60 min hr
				1 lb 7000 gr
				= $\leq 0.51$ lbs/hr

OR

**2.2 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= 15 lbs/hr or 65.7 TPY at 8760 hrs/yr
T	hr	

**Controlled:** 99.8% efficiency

15 lbs	0.002 (99.8% efficiency)	= 0.03 lbs/hr
hr		

OR  
0.13 TPY @ 8760 hrs/yr

**Expected:**

0.03 lbs	5400 hrs	1 T	= 0.08 TPY
hr	yr	2000 lbs	

**2. DF-08 baghouse emissions (emission point E17)**

D40, D41

Type Process: Sand Milling and Conveying With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-08)

Flow Rate: ACFM: 4,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

*Particulate Emissions (emission point E17)*

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$4,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$4,500 \text{ acfm} = VS (1.06)$$

VS = 4,245 scfm

4,245 scf		0.9975 (.25% moisture)		= 4,234 dscf	
min				min	
< 0.014 gr	4,234 dscf	60 min	1 lb	= <b>≤ 0.51 lbs/hr</b>	
dscf	min	hr	7000 gr		

OR

**2.2 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= <b>15 lbs/hr or 65.7 TPY</b> <b>at 8760 hrs/yr</b>
T	hr	

**Controlled:** 99.8% efficiency

15 lbs	0.002 (99.8% efficiency)	= 0.03 lbs/hr
hr		

OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs	5400 hrs	1 T	= <b>0.08 TPY</b>
hr	yr	2000 lbs	

**3. 710DC finish mill sweep filter (emission point E21)**

D47

Type Process: Sand Milling and Conveying With Finish Mill Sweep Filter

Capacity: Max. Capacity of 50 TPH

Control Device: Finish Mill Sweep (710-DC)

Flow Rate: ACFM: 40,000

Efficiency: 99.5 %

Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E21)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$40,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$40,000 \text{ acfm} = VS (1.06)$$

$$VS = 37,736 \text{ scfm}$$

$\frac{37,736 \text{ scf}}{\text{min}}$	$0.9975$ (.25% moisture)				$= \frac{37,642 \text{ dscf}}{\text{min}}$
$\leq 0.014 \text{ gr}$ dscf	$37,642 \text{ dscf}$ min	$60 \text{ min}$ hr	$1 \text{ lb}$ 7000 gr	$= \leq 4.52 \text{ lbs/hr}$	

OR

**19.8 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

$\frac{0.30 \text{ lbs}}{\text{T}}$	$50 \text{ T}$ hr	$= 15 \text{ lbs/hr or } 65.7 \text{ TPY}$ <b>at 8760 hrs/yr</b>
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**Controlled:** 99.5% efficiency

$\frac{15 \text{ lbs}}{\text{hr}}$	$0.005$ (99.5% efficiency)	$= 0.08 \text{ lbs/hr}$
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OR

**0.35 TPY @ 8760 hrs/yr**

**Expected:**

0.08 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.22 TPY</b>
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**4. 610DC finish mill sweep filter (emission point E25)**

D49

Type Process: Sand Milling and Conveying With Finish Mill Sweep Filter

Capacity: Max. Capacity of 50 TPH

Control Device: Finish Mill Sweep (610-DC)

Flow Rate: ACFM: 40,000  
Efficiency: 99.5 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

**Particulate Emissions (emission point E25)**

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$40,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$40,000 \text{ acfm} = VS (1.06)$$

$$VS = 37,736 \text{ scfm}$$

37,736 scf min	0.9975 (.25% moisture)	= 37,642 dscf min
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< 0.014 gr dscf	37,642 dscf min	60 min hr	1 lb 7000 gr	= <b><math>\leq 4.52</math> lbs/hr</b>
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OR

**19.8 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= 15 lbs/hr or 65.7 TPY at 8760 hrs/yr
T	hr	

**Controlled:** 99.5% efficiency

15 lbs	0.005 (99.5% efficiency)	= 0.08 lbs/hr
hr		

OR  
0.35 TPY @ 8760 hrs/yr

**Expected:**

0.08 lbs	5400 hrs	1 T	= 0.22 TPY
hr	yr	2000 lbs	

**5. DF-09 baghouse emissions (emission point E27)**

D54, D91

Type Process: Sand Milling and Conveying With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-09)

Flow Rate: ACFM: 4,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E27)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$4,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$4,500 \text{ acfm} = \text{VS (1.06)}$$

$$\text{VS} = 4,245 \text{ scfm}$$

4,245 scf min	0.9975 (.25% moisture)				= 4,234 dscf min
< 0.014 gr dscf	4,234 dscf min	60 min hr	1 lb 7000 gr	= <b>&lt; 0.51 lbs/hr</b>	

OR

**2.2 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	50 T hr	= <b>15 lbs/hr or 65.7 TPY at 8760 hrs/yr</b>	
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**Controlled:** 99.8% efficiency

15 lbs hr	0.002 (99.8% efficiency)	= 0.03 lbs/hr	
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OR

**0.13 TPY @ 8760 hrs/yr****Expected:**

0.03 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.08 TPY</b>	
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**6. DF-11 baghouse emissions (emission point E26)**

D55, D90

Type Process: Sand Milling and Conveying With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-09)  
 Flow Rate: ACFM: 4,500  
 Efficiency: 99.8 %  
 Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E26)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$4,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$4,500 \text{ acfm} = VS (1.06)$$

$$VS = 4,245 \text{ scfm}$$

$\frac{4,245 \text{ scf}}{\text{min}}$	$0.9975$ (.25% moisture)	$= 4,234 \text{ dscf}$ min		
$< 0.014 \text{ gr}$ dscf	$4,234 \text{ dscf}$ min	$60 \text{ min}$ hr	$\frac{1 \text{ lb}}{7000 \text{ gr}}$	$= \leq 0.51 \text{ lbs/hr}$

OR

**2.2 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

$\frac{0.30 \text{ lbs}}{\text{T}}$	$50 \text{ T}$ hr	$= 15 \text{ lbs/hr or } 65.7 \text{ TPY}$ <b>at 8760 hrs/yr</b>
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**Controlled:** 99.8% efficiency

$\frac{15 \text{ lbs}}{\text{hr}}$	$0.002$ (99.8% efficiency)	$= 0.03 \text{ lbs/hr}$
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OR  
**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.08 TPY</b>
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**7. 712DC separator emissions (emission point E19)**

D56

Type Process: Sand Milling and Conveying With Separator

Capacity: Max. Capacity of 50 TPH

Control Device: Separator Filter (721DC)

Flow Rate: ACFM: 40,000  
 Efficiency: 99.5 %  
 Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E19)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$40,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$40,000 \text{ acfm} = VS (1.06)$$

$$VS = 37,736 \text{ scfm}$$

37,736 scf min	0.9975 (.25% moisture)	= 37,642 dscf min
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$\leq 0.014$ gr dscf	37,642 dscf min	60 min hr	1 lb 7000 gr	= $\leq$ <b>4.52 lbs/hr</b>
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OR  
**19.8 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= <b>15 lbs/hr or 65.7 TPY</b> <b>at 8760 hrs/yr</b>
T	hr	

**Controlled:** 99.5% efficiency

15 lbs	0.005 (99.5% efficiency)	= 0.08 lbs/hr
hr		

OR  
**0.35 TPY @ 8760 hrs/yr**

**Expected:**

0.08 lbs	5400 hrs	1 T	= <b>0.22 TPY</b>
hr	yr	2000 lbs	

**8. DF-14 baghouse emissions (emission point E23)**

D63

Type Process: Sand Milling and Conveying With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-14)

Flow Rate: ACFM: 1,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

**Particulate Emissions (emission point E23)**

Allowable:  $\leq$  0.014 gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,500 \text{ acfm} = VS (1.06)$$

$$VS = 1,415 \text{ scfm}$$

1415 scf min	0.9975 (0.25% moisture)	= 1411 dscf min		
< 0.014 gr dscf	1411 dscf min	60 min hr	1 lb 7000 gr	= <b>≤ 0.17 lbs/hr</b>

OR

**0.7 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	50 T hr	= <b>15 lbs/hr or 65.7 TPY at 8760 hrs/yr</b>
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**Controlled:** 99.8% efficiency

15 lbs hr	0.002 (99.8% efficiency)	= 0.03 lbs/hr
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OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.08 TPY</b>
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**9. DF-15 baghouse emissions (emission point E42)**

D79

Type Process: Sand Milling and Conveying With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-15)  
Flow Rate: ACFM: 1,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E42)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,500 \text{ acfm} = VS (1.06)$$

$$VS = 1,415 \text{ scfm}$$

1415 scf min	0.9975 (0.25% moisture)	= 1411 dscf min		
$\leq 0.014$ gr dscf	1411 dscf min	60 min hr	1 lb 7000 gr	= $\leq 0.17$ lbs/hr

OR

**0.7 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	50 T hr	= <b>15 lbs/hr or 65.7 TPY at 8760 hrs/yr</b>
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**Controlled:** 99.8% efficiency

15 lbs hr		0.002 (99.8% efficiency)		= 0.03 lbs/hr
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OR  
**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs hr		5400 hrs yr		1 T 2000 lbs		= <b>0.08 TPY</b>
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**10. 621DC dust collector emissions (emission point E20)**

D87

Type Process: Sand Milling and Conveying With Dust Collector

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (621DC)

Flow Rate: ACFM: 40,000  
Efficiency: 99.5 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

**Particulate Emissions (emission point E20)**

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$40,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$40,000 \text{ acfm} = VS (1.06)$$

$$VS = 37,736 \text{ scfm}$$

37,736 scf min		0.9975 (0.25% moisture)		= 37,642 dscf min
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< 0.014 gr	37,642 dscf	60 min	1 lb	= <b>≤ 4.52 lbs/hr</b>
dscf	min	hr	7000 gr	

OR  
**19.8 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= <b>15 lbs/hr or 65.7 TPY at 8760 hrs/yr</b>
T	hr	

**Controlled:** 99.5% efficiency

15 lbs	0.005 (99.5% efficiency)	= 0.08 lbs/hr
hr		

OR  
**0.35 TPY @ 8760 hrs/yr**

**Expected:**

.08 lbs	5400 hrs	1 T	= <b>0.22 TPY</b>
hr	yr	2000 lbs	

**11. BVF-10 bin vent emissions (emission point E28)**

D96

Type Process: Sand Milling and Conveying With Bin Vent

Capacity: Max. Capacity of 50 TPH

Control Device: BinVent (BVF-10)

Flow Rate: ACFM: 1,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E28)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,500 \text{ acfm} = VS (1.06)$$

$$VS = 1,415 \text{ scfm}$$

$\frac{1,415 \text{ scf}}{\text{min}}$	$0.9975$ (0.25% moisture)	$= 1,411 \text{ dscf}$ min		
$\frac{\leq 0.014 \text{ gr}}{\text{dscf}}$	$1,411 \text{ dscf}$ min	$60 \text{ min}$ hr	$\frac{1 \text{ lb}}{7000 \text{ gr}}$	$= \leq 0.17 \text{ lbs/hr}$

OR

**0.7 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

$\frac{0.30 \text{ lbs}}{\text{T}}$	$50 \text{ T}$ hr	$= 15 \text{ lbs/hr or } 65.7 \text{ TPY}$ at 8760 hrs/yr
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**Controlled:** 99.8% efficiency

$\frac{15 \text{ lbs}}{\text{hr}}$	$0.002$ (99.8% efficiency)	$= 0.03 \text{ lbs/hr}$
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OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

$\frac{0.03 \text{ lbs}}{\text{hr}}$	$5400 \text{ hrs}$ yr	$\frac{1 \text{ T}}{2000 \text{ lbs}}$	$= 0.08 \text{ TPY}$
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**12. BVF-09 Bin vent emissions (emission point E29)**

D97

Type Process: Sand Milling and Conveying With Bin Vent

Capacity: Max. Capacity of 50 TPH

Control Device: BinVent (BVF-09)

Flow Rate: ACFM: 1,500  
 Efficiency: 99.8 %  
 Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

*Particulate Emissions (emission point E29)*

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,500 \text{ acfm} = VS (1.06)$$

$$VS = 1,415 \text{ scfm}$$

1415 scf min	0.9975 (0.25% moisture)	= 1411 dscf min
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$< 0.014$ gr dscf	1411 dscf min	60 min hr	1 lb 7000 gr	= <b><math>\leq 0.17</math> lbs/hr</b>
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OR

**0.7 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	50 T hr	= <b>15 lbs/hr or 65.7 TPY at 8760 hrs/yr</b>
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**Controlled:** 99.8% efficiency

$$\frac{15 \text{ lbs}}{\text{hr}} \mid \frac{0.002 \text{ (99.8\% efficiency)}}{\text{yr}} \mid = 0.03 \text{ lbs/hr}$$

OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

$$\frac{0.03 \text{ lbs}}{\text{hr}} \mid \frac{5400 \text{ hrs}}{\text{yr}} \mid \frac{1 \text{ T}}{2000 \text{ lbs}} \mid = \mathbf{0.08 \text{ TPY}}$$

**13. BVF-08 bin vent emissions (emission point E30)**

D98

Type Process: Sand Milling and Conveying With Bin Vent

Capacity: Max. Capacity of 50 TPH

Control Device: BinVent (BVF-08)

Flow Rate: ACFM: 1,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

**Particulate Emissions (emission point E30)**

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,500 \text{ acfm} = VS (1.06)$$

$$VS = 1,415 \text{ scfm}$$

$$\frac{1,415 \text{ scf}}{\text{min}} \mid \frac{0.9975 \text{ (0.25\% moisture)}}{\text{min}} \mid = 1411 \text{ dscf}$$

< 0.014 gr	1411 dscf	60 min	1 lb	= < 0.17 lbs/hr
dscf	min	hr	7000 gr	

OR

**0.7 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= 15 lbs/hr or 65.7 TPY
T	hr	at 8760 hrs/yr

**Controlled:** 99.8% efficiency

15 lbs	0.002 (99.8% efficiency)	= 0.03 lbs/hr
hr		

OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs	5400 hrs	1 T	= 0.08 TPY
hr	yr	2000 lbs	

**14. BVF-07 bin vent emissions (emission point E31)**

D99

Type Process: Sand Milling and Conveying With Bin Vent

Capacity: Max. Capacity of 50 TPH

Control Device: BinVent (BVF-07)

Flow Rate: ACFM: 1,500  
 Efficiency: 99.8 %  
 Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E31)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,500 \text{ acfm} = VS (1.06)$$

$$VS = 1,415 \text{ scfm}$$

1,415 scf min	0.9975 (0.25% moisture)	= 1411 dscf min		
$\leq 0.014$ gr dscf	1411 dscf min	60 min hr	1 lb 7000 gr	= $\leq 0.17$ lbs/hr

OR

**0.7 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= <b>15 lbs/hr or 65.7 TPY</b> <b>at 8760 hrs/yr</b>
T	hr	

**Controlled:** 99.8% efficiency

15 lbs hr	0.002 (99.8% efficiency)	= 0.03 lbs/hr
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OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.08 TPY</b>
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**15. BVF-06 Bin vent emissions (emission point E32)**

D100

Type Process: Sand Milling and Conveying With Bin Vent

Capacity: Max. Capacity of 50 TPH

Control Device: BinVent (BVF-06)

Flow Rate: ACFM: 1,500  
 Efficiency: 99.8 %  
 Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

*Particulate Emissions (emission point E32)*

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,500 \text{ acfm} = VS (1.06)$$

$$VS = 1,415 \text{ scfm}$$

1,415 scf min	0.9975 (0.25% moisture)	= 1411 dscf min		
$\leq 0.014$ gr dscf	1411 dscf min	60 min hr	1 lb 7000 gr	= $\leq 0.17$ lbs/hr

OR

**0.7 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	50 T hr	= <b>15 lbs/hr or 65.7 TPY at 8760 hrs/yr</b>
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**Controlled:**            99.8% efficiency

$$\frac{15 \text{ lbs}}{\text{hr}} \quad | \quad 0.002 \text{ (99.8\% efficiency)} \quad | \quad = 0.03 \text{ lbs/hr}$$

OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

$$\frac{0.03 \text{ lbs}}{\text{hr}} \quad | \quad \frac{5400 \text{ hrs}}{\text{yr}} \quad | \quad \frac{1 \text{ T}}{2000 \text{ lbs}} \quad | \quad = \mathbf{0.08 \text{ TPY}}$$

**Proposed Equipment for X004 – (3) 50 TPH Telescoping Spout Loadout Systems with Conveyors and (3) Loadout Storage Tanks and (6) Baghouses and (3) Bin Vents (Stacks DF-13, DF-12, DF-18, DF-16, DF-17, DF-19 and Vents BVF-13, BVF-12, BVF-11)**

**1. DF-13 baghouse emissions (emission point E43)**

D38, D109 inlet

Type Process: Sand Conveying, Storage, and Loading With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-12)

Flow Rate: ACFM: 8,000  
 Efficiency: 99.8 %  
 Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E43)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$8,000 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$8,000 \text{ acfm} = VS (1.06)$$

$$VS = 7,547 \text{ scfm}$$

$\frac{7,547 \text{ scf}}{\text{min}}$		$0.9975 (.25\% \text{ moisture})$		$= \frac{7,528 \text{ dscf}}{\text{min}}$
$\frac{< 0.014 \text{ gr}}{\text{dscf}}$		$\frac{7,528 \text{ dscf}}{\text{min}}$		$\frac{60 \text{ min}}{\text{hr}}$
				$\frac{1 \text{ lb}}{7000 \text{ gr}}$
				$= \leq 0.90 \text{ lbs/hr}$

OR

**3.9 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= <b>15 lbs/hr or 65.7 TPY</b> <b>at 8760 hrs/yr</b>
T	hr	

**Controlled:** 99.8% efficiency

15 lbs	0.002 (99.8% efficiency)	= 0.03 lbs/hr
hr		

OR  
**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs	5400 hrs	1 T	= <b>0.08 TPY</b>
hr	yr	2000 lbs	

## **2. DF-12 baghouse emissions (emission point E34)**

D109 discharge, D110

Type Process: Sand Conveying, Storage, and Loading With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-12)

Flow Rate: ACFM: 4,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

### Particulate Emissions (emission point E34)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$4,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$4,500 \text{ acfm} = VS (1.06)$$

$$VS = 4,245 \text{ scfm}$$

4,245 scf	0.9975 (.25% moisture)	= 4,234 dscf		
min		min		
$\leq 0.014$ gr	4,234 dscf	60 min	1 lb	= $\leq 0.51$ lbs/hr
dscf	min	hr	7000 gr	

OR

**2.2 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= 15 lbs/hr or 65.7 TPY
T	hr	at 8760 hrs/yr

**Controlled:** 99.8% efficiency

15 lbs	0.002 (99.8% efficiency)	= 0.03 lbs/hr
hr		

OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs	5400 hrs	1 T	= 0.08 TPY
hr	yr	2000 lbs	

### **3. DF-18 baghouse emissions (emission point E35)**

D111

Type Process: Sand Conveying, Storage, and Loading With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-18)

Flow Rate: ACFM: 4,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E35)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$4,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$4,500 \text{ acfm} = VS (1.06)$$

$$VS = 4245 \text{ scfm}$$

$\frac{4,245 \text{ scf}}{\text{min}}$	$0.9975$ (.25% moisture)	$= 4,234 \text{ dscf}$		
$\frac{< 0.014 \text{ gr}}{\text{dscf}}$	$\frac{4,234 \text{ dscf}}{\text{min}}$	$\frac{60 \text{ min}}{\text{hr}}$	$\frac{1 \text{ lb}}{7000 \text{ gr}}$	$= < 0.51 \text{ lbs/hr}$

OR

**2.2 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

$\frac{0.30 \text{ lbs}}{\text{T}}$	$\frac{50 \text{ T}}{\text{hr}}$	$= 15 \text{ lbs/hr or } 65.7 \text{ TPY}$ <b>at 8760 hrs/yr</b>
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**Controlled:** 99.8% efficiency

$\frac{15 \text{ lbs}}{\text{hr}}$	$0.002$ (99.8% efficiency)	$= 0.03 \text{ lbs/hr}$
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OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.08 TPY</b>
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**4. BVF-13 bin vent emissions (emission point E36)**

D115

Type Process: Sand Conveying, Storage, and Loading With Bin Vent

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (BVF-13)

Flow Rate: ACFM: 1,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

**Particulate Emissions (emission point E36)**

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,500 \text{ acfm} = VS (1.06)$$

$$VS = 1,415 \text{ scfm}$$

1,415scf min	0.9975 (.25% moisture)	= 1,411 dscf min
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$< 0.014$ gr dscf	1,411 dscf min	60 min hr	1 lb 7000 gr	= <b><math>\leq 0.17</math> lbs/hr</b>
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OR

**0.7 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= 15 lbs/hr or 65.7 TPY at 8760 hrs/yr
T	hr	

**Controlled:** 99.8% efficiency

15 lbs	0.002 (99.8% efficiency)	= 0.03 lbs/hr
hr		

OR  
0.13 TPY @ 8760 hrs/yr

**Expected:**

0.03 lbs	5400 hrs	1 T	= 0.08 TPY
hr	yr	2000 lbs	

**5. BVF-12 bin vent emissions (emission point E37)**

D116

Type Process: Sand Conveying, Storage, and Loading With Bin Vent

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-18)

Flow Rate: ACFM: 1,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E37)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,500 \text{ acfm} = \text{VS} (1.06)$$

$$\text{VS} = 1,415 \text{ scfm}$$

1,415scf min	0.9975 (.25% moisture)	= 1,411 dscf min		
$\leq 0.014 \text{ gr}$ dscf	1,411 dscf min	60 min hr	1 lb 7000 gr	= $\leq 0.17 \text{ lbs/hr}$

OR

**0.7 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= <b>15 lbs/hr or 65.7 TPY</b> <b>at 8760 hrs/yr</b>
T	hr	

**Controlled:** 99.8% efficiency

15 lbs hr	0.002 (99.8% efficiency)	= 0.03 lbs/hr
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OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.08 TPY</b>
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**6. BVF-11 bin vent emissions (emission point E38)**

D117

Type Process: Sand Screening and Conveying With Bin Vent

Capacity: Max. Capacity of 50 TPH

Control Device: Bin Vent (BVF-11)

Flow Rate: ACFM: 1,500  
Efficiency: 99.8 %

Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E38)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$1,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$1,500 \text{ acfm} = VS (1.06)$$

$$VS = 1,415 \text{ scfm}$$

1,415scf min	0.9975 (.25% moisture)				= 1,411 dscf min
$< 0.014$ gr dscf	1,411 dscf min	60 min hr	1 lb 7000 gr	= $\leq 0.17$ lbs/hr	

OR

**0.7 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs T	50 T hr	= <b>15 lbs/hr or 65.7 TPY at 8760 hrs/yr</b>			
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**Controlled:** 99.8% efficiency

15 lbs hr	0.002 (99.8% efficiency)	= 0.03 lbs/hr			
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OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs hr	5400 hrs yr	1 T 2000 lbs	= <b>0.08 TPY</b>
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**7. DF-16 baghouse emissions (emission point E39)**

D121

Type Process: Sand Loadout With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-16)

Flow Rate: ACFM: 2,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

*Particulate Emissions (emission point E39)*

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$2,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$2,500 \text{ acfm} = VS (1.06)$$

$$VS = 2,358 \text{ scfm}$$

2,358scf min	0.9975 (.25% moisture)	= 2,352 dscf min		
$\leq 0.014$ gr dscf	2,352 dscf min	60 min hr	1 lb 7000 gr	= $\leq 0.28$ lbs/hr

OR

**1.2 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= <b>15 lbs/hr or 65.7 TPY</b> <b>at 8760 hrs/yr</b>
T	hr	

**Controlled:** 99.8% efficiency

15 lbs	0.002 (99.8% efficiency)	= 0.03 lbs/hr
hr		

OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs	5400 hrs	1 T	= <b>0.08 TPY</b>
hr	yr	2000 lbs	

**8. DF-17 baghouse emissions (emission point E40)**

D122

Type Process: Sand Screening and Conveying With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-17)

Flow Rate: ACFM: 2,500  
Efficiency: 99.8 %  
Temperature: 100°F  
Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

*Particulate Emissions (emission point E40)*

Allowable: ≤ 0.014 gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (°F) + 460}{530}$$

$$2,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$2,500 \text{ acfm} = VS (1.06)$$

$$VS = 2,358 \text{ scfm}$$

2,358scf min	0.9975 (.25% moisture)	= 2,352 dscf min		
< 0.014 gr dscf	2,352 dscf min	60 min hr	1 lb 7000 gr	= <b>≤ 0.28 lbs/hr</b>

OR

**1.2 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

0.30 lbs	50 T	= <b>15 lbs/hr or 65.7 TPY</b> <b>at 8760 hrs/yr</b>
T	hr	

**Controlled:** 99.8% efficiency

15 lbs	0.002 (99.8% efficiency)	= 0.03 lbs/hr
hr		

OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

0.03 lbs	5400 hrs	1 T	= <b>0.08 TPY</b>
hr	yr	2000 lbs	

**9. DF-19 (future collector) baghouse emissions (emission point E41)**

D123

Type Process: Sand Screening and Conveying With Baghouse

Capacity: Max. Capacity of 50 TPH

Control Device: Baghouse (DF-19)  
 Flow Rate: ACFM: 2,500  
 Efficiency: 99.8 %  
 Temperature: 100°F  
 Moisture: 0.25%

Operating Hours: Requested SMOP limit of 5400 hrs/yr

Particulate Emissions (emission point E41)

Allowable:  $\leq 0.014$  gr/dscf from 40 CFR Part 60, Subpart OOO.

$$VA = \frac{VS (\text{°F}) + 460}{530}$$

$$2,500 \text{ acfm} = \frac{VS (100 + 460)}{530}$$

$$2,500 \text{ acfm} = VS (1.06)$$

$$VS = 2,358 \text{ scfm}$$

$\frac{2,358 \text{ scf}}{\text{min}}$	$  \quad 0.9975 \text{ (.25\% moisture)}$	$  \quad = 2,352 \text{ dscf}$
$\frac{\leq 0.014 \text{ gr}}{\text{dscf}}$	$  \quad \frac{2,352 \text{ dscf}}{\text{min}}$	$  \quad \frac{60 \text{ min}}{\text{hr}}$
	$  \quad \frac{1 \text{ lb}}{7000 \text{ gr}}$	$  \quad = \leq 0.28 \text{ lbs/hr}$

OR

**1.2 TPY @ 8760 hrs/yr**

**Uncontrolled Emissions:** Emission factors are not available for this specific material and process; therefore, the emission factor of 0.30 lb/ton for “fines screening” (AP 42 Table 11.19.2-2) is utilized.

$\frac{0.30 \text{ lbs}}{\text{T}}$	$  \quad \frac{50 \text{ T}}{\text{hr}}$	$  \quad = 15 \text{ lbs/hr or } 65.7 \text{ TPY}$
		$  \quad \text{at } 8760 \text{ hrs/yr}$

**Controlled:** 99.8% efficiency

$$\frac{15 \text{ lbs}}{\text{hr}} \mid 0.002 \text{ (99.8\% efficiency)} \mid = 0.03 \text{ lbs/hr}$$

OR

**0.13 TPY @ 8760 hrs/yr**

**Expected:**

$$\frac{0.03 \text{ lbs}}{\text{hr}} \mid \frac{5400 \text{ hrs}}{\text{yr}} \mid \frac{1 \text{ T}}{2000 \text{ lbs}} \mid = \mathbf{0.08 \text{ TPY}}$$

**Appendix B**  
**MS Industries II, LLC**  
**Russellville, Alabama**  
**Permit No. 704-0027-X001**  
**PROPOSED PROVISOS**

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.
2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.
3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.
4. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.
5. In case of shutdown of air pollution control equipment for scheduled maintenance for a period greater than **(1) hour**, the intent to shut down shall be reported to the Air Division at least 24 hours prior to the planned shutdown, **unless accompanied by the immediate shutdown of the emission source.**
6. In the event there is a breakdown of equipment in such a manner as to cause increased emission of air contaminants for a period greater than **(1) hour**, the person responsible for such equipment shall notify the Air Division within an additional 24 hours and provide a statement giving all pertinent facts, including the duration of the breakdown. The Air Division shall be notified when the breakdown has been corrected.
7. This process, including all air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.
8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.
9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

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10. Prior to a date to be specified by the Chief of the Air Division in the authorization to operate, emission tests are to be conducted by persons familiar with and using the EPA Sampling Train and Test Procedure as described in the Code of Federal Regulations, Title 40, Part 60, for the following pollutants. Written tests results are to be reported to the Air Division within 15 working days of completion of testing.

Particulates	(X)	Carbon Monoxide	( )
Sulfur Dioxide	( )	Nitrogen Oxides	( )
Volatile Organic Compounds	( )	Visible Emissions	(X)

11. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.
12. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.
13. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.
14. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.
15. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

- (a) The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
- (b) A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
- (c) A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.

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- (d) A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 15 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

- 16. The bucket elevator shall be enclosed and sealed. The dryer shall be hooded at the feed and sealed at the burner end. Dust emissions created by the operation of the dryer shall be exhausted through the ducts and the control system by an enclosed fan. Dust emissions shall not be allowed to escape from enclosures or through seals due to holes or cracks in the enclosures or seals or due to inadequate or poor draft caused by leaks, blockages, or fan malfunctioning. Holes or cracks in enclosures or seals and/or inadequate or poor draft which allow dust emissions to escape the enclosures and/or seals must be promptly repaired.
- 17. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

- (a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;
- (b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;
- (c) by paving;
- (d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

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18. This facility is subject to New Source Performance Standards (NSPS) 40 CFR 60 Subpart OOO. This NSPS limits stack particulate emissions to 0.014 grains per dry standard cubic foot and stack visible emissions to 0% opacity. This NSPS limits visible emissions from uncontrolled crushers to 12% opacity and limits visible emissions from uncontrolled grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations, or from any other affected facility to 7% opacity. Dry control devices on individual enclosed storage bins, which are exempt from stack emission limits, are subject to a visible emissions limit of 7% opacity. Vents in a building must meet the stack particulate limit of 0.014 grains per dry standard cubic foot and stack visible emissions limit of 0% opacity. All applicable requirements of this Subpart must be met including, but not limited to, the standards for particulate matter, the monitoring of operations, test methods and procedures, and reporting and recordkeeping.
19. Compliance with the opacity standards for sources subject to NSPS-Subpart OOO will be determined by conducting visible emission observations in accordance with the most recent version of EPA Reference Method 9 of the CFR, Title 40, Part 60.

When determining compliance with the fugitive emissions standard for grinding mills, screening operations, crushers, transfer points on belt conveyors, bucket elevators, bagging operations, storage bins, enclosed truck or railcar loading stations, building openings (if necessary), or from any other affected facility of this circuit, the duration of the Method 9 observations are required to be 30 minutes or five six minute averages. No more than 3 points may be tested concurrently by the same observer. The observations will be made by an observer currently certified to make EPA Method 9 visible emission observations. The specified criteria of NSPS - Subpart OOO must be met.

When determining compliance with the particulate matter standards for affected facilities with capture systems, Method 5 or Method 17 shall be used to determine the particulate matter concentration. Method 5I shall be used as an alternate to Method 5 if the minimal sampling volume of 60 dscf cannot be obtained and the equipment being tested operates for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations.

The required performance testing will be conducted within 60 days of the source achieving maximum production rate but no later than 180 days of initial start-up of the facility. The test reports will be submitted to the Department within 15 days of the test date.

20. EPA Method 9 repeat testing is required for affected equipment that reduce fugitive emissions without water sprays or water carryover. The repeat testing shall be conducted in 5 year intervals from the date of the previous performance test.
21. Recordkeeping of all periodic monitoring inspections is required for all baghouses and/or dry control devices. The records shall include quarterly 30-minute visible emissions inspections using EPA Method 22. The Method 22 test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed the owner or operator of the affected facility must initiate

**Permit No. 704-0027-X001**

corrective action within 24 hours to return the baghouse to normal operation. The owner and operator must record each Method 22 test, including the date and any corrective actions taken. Records shall be kept on the facility site, either in a handwritten log book or in electronic version suitable for inspection upon request by Air Division inspectors and shall be retained for at least 2 years from the date of generation.

22. If this plant relocates to another site, this plant's Air Permit remains valid for this site unless or until it is revoked for failure to comply with ADEM Air Division Rules and Regulations. The owner or operator of this plant must provide written notification of the intent to relocate the plant to this site at least two weeks in advance. The written notification should include the planned construction beginning date and the projected startup date. Failure to provide this written notification is a violation of this permit condition and is grounds for revocation of this permit.
23. A properly maintained and operated device will be utilized to measure the pressure differential across the baghouse.
24. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.
25. This facility is limited to the use of Natural Gas only as a fuel to fire the burner. Any plans to change the type of burner fuel must receive prior approval from this office.
26. Upon issuance of the Air Permit, this unit will be limited to operating no more than 5,400 hours per twelve (12) month period (rolling average). Records of hours of operation must be kept in permanent form suitable for inspection. These records shall be retained onsite for a period of at least two (2) years and made available upon request.
27. Should this facility, at any time, exceed the limits for this permit, this Department must be notified within ten (10) days of the exceedance.
28. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.
29. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.
30. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

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31. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

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Date

**MS Industries II, LLC**  
**Russellville, Alabama**  
**Permit No. 704-0027-X002**  
**PROPOSED PROVISOS**

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.
2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.
3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.
4. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.
5. In case of shutdown of air pollution control equipment for scheduled maintenance for a period greater than **(1) hour**, the intent to shut down shall be reported to the Air Division at least 24 hours prior to the planned shutdown, **unless accompanied by the immediate shutdown of the emission source.**
6. In the event there is a breakdown of equipment in such a manner as to cause increased emission of air contaminants for a period greater than **(1) hour**, the person responsible for such equipment shall notify the Air Division within an additional 24 hours and provide a statement giving all pertinent facts, including the duration of the breakdown. The Air Division shall be notified when the breakdown has been corrected.
7. This process, including all air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.
8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.
9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

**Permit No. 704-0027-X002**

10. Prior to a date to be specified by the Chief of the Air Division in the authorization to operate, emission tests are to be conducted by persons familiar with and using the EPA Sampling Train and Test Procedure as described in the Code of Federal Regulations, Title 40, Part 60, for the following pollutants. Written tests results are to be reported to the Air Division within 15 working days of completion of testing.

Particulates	(X)	Carbon Monoxide	( )
Sulfur Dioxide	( )	Nitrogen Oxides	( )
Volatile Organic Compounds	( )	Visible Emissions	(X)

11. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.
12. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.
13. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.
14. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.
15. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

- (a) The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
- (b) A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
- (c) A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.

**Permit No. 704-0027-X002**

- (d) A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 15 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

- 16. The bucket elevator(s) shall be enclosed and sealed. Dust emissions shall not be allowed to escape from enclosures or through seals due to holes or cracks in the enclosures or seals or due to inadequate or poor draft caused by leaks, blockages, or fan malfunctioning. Holes or cracks in enclosures or seals and/or inadequate or poor draft which allow dust emissions to escape the enclosures and/or seals must be promptly repaired.
- 17. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

- (a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;
- (b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;
- (c) by paving;
- (d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

- 18. This facility is subject to New Source Performance Standards (NSPS) 40 CFR 60 Subpart OOO. This NSPS limits stack particulate emissions to 0.014 grains per dry standard cubic foot and stack visible emissions to 0% opacity. This NSPS limits visible emissions from uncontrolled crushers to 12% opacity and limits visible emissions from uncontrolled

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grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations, or from any other affected facility to 7% opacity. Dry control devices on individual enclosed storage bins, which are exempt from stack emission limits, are subject to a visible emissions limit of 7% opacity. Vents in a building must meet the stack particulate limit of 0.014 grains per dry standard cubic foot and stack visible emissions limit of 0% opacity. All applicable requirements of this Subpart must be met including, but not limited to, the standards for particulate matter, the monitoring of operations, test methods and procedures, and reporting and recordkeeping.

19. If this plant relocates to another site, this plant's Air Permit remains valid for this site unless or until it is revoked for failure to comply with ADEM Air Division Rules and Regulations. The owner or operator of this plant must provide written notification of the intent to relocate the plant to this site at least two weeks in advance. The written notification should include the planned construction beginning date and the projected startup date. Failure to provide this written notification is a violation of this permit condition and is grounds for revocation of this permit.
20. A properly maintained and operated device will be utilized to measure the pressure differential across each baghouse.
21. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.
22. Compliance with the opacity standards for sources subject to NSPS-Subpart OOO will be determined by conducting visible emission observations in accordance with the most recent version of EPA Reference Method 9 of the CFR, Title 40, Part 60.

When determining compliance with the fugitive emissions standard for grinding mills, screening operations, crushers, transfer points on belt conveyors, bucket elevators, bagging operations, storage bins, enclosed truck or railcar loading stations, building openings (if necessary), or from any other affected facility of this circuit, the duration of the Method 9 observations are required to be 30 minutes or five six minute averages. No more than 3 points may be tested concurrently by the same observer. The observations will be made by an observer currently certified to make EPA Method 9 visible emission observations. The specified criteria of NSPS - Subpart OOO must be met.

When determining compliance with the particulate matter standards for affected facilities with capture systems, Method 5 or Method 17 shall be used to determine the particulate matter concentration. Method 5I shall be used as an alternate to Method 5 if the minimal

**Permit No. 704-0027-X002**

sampling volume of 60 dscf cannot be obtained and the equipment being tested operates for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations.

The required performance testing will be conducted within 60 days of the source achieving maximum production rate but no later than 180 days of initial start-up of the facility. The test reports will be submitted to the Department within 15 days of the test date.

23. EPA Method 9 repeat testing is required for affected equipment that reduce fugitive emissions without water sprays or water carryover. The repeat testing shall be conducted in 5 year intervals from the date of the previous performance test.
24. Recordkeeping of all periodic monitoring inspections is required for all baghouses and/or dry control devices. The records shall include quarterly 30-minute visible emissions inspections using EPA Method 22. The Method 22 test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner and operator must record each Method 22 test, including the date and any corrective actions taken. Records shall be kept on the facility site, either in a handwritten log book or in electronic version suitable for inspection upon request by Air Division inspectors and shall be retained for at least 2 years from the date of generation.
25. Should this facility, at any time, exceed the limits for this Air Permit, this Department must be notified within ten (10) days of the exceedance.
26. Upon issuance of the Air Permit, this unit will be limited to operating no more than 5,400 hours per twelve (12) month period (rolling average). Records of hours of operation must be kept in permanent form suitable for inspection. These records shall be retained onsite for a period of at least two (2) years and made available upon request.
27. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.
28. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.
29. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

**Permit No. 704-0027-X002**

30. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

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Date

**MS Industries II, LLC**  
**Russellville, Alabama**  
**Permit No. 704-0027-X003**  
**PROPOSED PROVISOS**

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.
2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.
3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.
4. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.
5. In case of shutdown of air pollution control equipment for scheduled maintenance for a period greater than **(1) hour**, the intent to shut down shall be reported to the Air Division at least 24 hours prior to the planned shutdown, **unless accompanied by the immediate shutdown of the emission source.**
6. In the event there is a breakdown of equipment in such a manner as to cause increased emission of air contaminants for a period greater than **(1) hour**, the person responsible for such equipment shall notify the Air Division within an additional 24 hours and provide a statement giving all pertinent facts, including the duration of the breakdown. The Air Division shall be notified when the breakdown has been corrected.
7. This process, including all air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.
8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.
9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

**Permit No. 704-0027-X003**

10. Prior to a date to be specified by the Chief of the Air Division in the authorization to operate, emission tests are to be conducted by persons familiar with and using the EPA Sampling Train and Test Procedure as described in the Code of Federal Regulations, Title 40, Part 60, for the following pollutants. Written tests results are to be reported to the Air Division within 15 working days of completion of testing.

Particulates	(X)	Carbon Monoxide	( )
Sulfur Dioxide	( )	Nitrogen Oxides	( )
Volatile Organic Compounds	( )	Visible Emissions	(X)

11. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.
12. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.
13. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.
14. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.
15. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

- (a) The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
- (b) A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
- (c) A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.

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- (d) A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 15 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

- 16. The bucket elevator(s) shall be enclosed and sealed. Dust emissions shall not be allowed to escape from enclosures or through seals due to holes or cracks in the enclosures or seals or due to inadequate or poor draft caused by leaks, blockages, or fan malfunctioning. Holes or cracks in enclosures or seals and/or inadequate or poor draft which allow dust emissions to escape the enclosures and/or seals must be promptly repaired.
- 17. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

- (a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;
- (b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;
- (c) by paving;
- (d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

- 18. This facility is subject to New Source Performance Standards (NSPS) 40 CFR 60 Subpart OOO. This NSPS limits stack particulate emissions to 0.014 grains per dry standard cubic foot and stack visible emissions to 0% opacity. This NSPS limits visible emissions from uncontrolled crushers to 12% opacity and limits visible emissions from uncontrolled

**Permit No. 704-0027-X003**

grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations, or from any other affected facility to 7% opacity. Dry control devices on individual enclosed storage bins, which are exempt from stack emission limits, are subject to a visible emissions limit of 7% opacity. Vents in a building must meet the stack particulate limit of 0.014 grains per dry standard cubic foot and stack visible emissions limit of 0% opacity. All applicable requirements of this Subpart must be met including, but not limited to, the standards for particulate matter, the monitoring of operations, test methods and procedures, and reporting and recordkeeping.

19. If this plant relocates to another site, this plant's Air Permit remains valid for this site unless or until it is revoked for failure to comply with ADEM Air Division Rules and Regulations. The owner or operator of this plant must provide written notification of the intent to relocate the plant to this site at least two weeks in advance. The written notification should include the planned construction beginning date and the projected startup date. Failure to provide this written notification is a violation of this permit condition and is grounds for revocation of this permit.
20. A properly maintained and operated device will be utilized to measure the pressure differential across each baghouse.
21. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.
22. Compliance with the opacity standards for sources subject to NSPS-Subpart OOO will be determined by conducting visible emission observations in accordance with the most recent version of EPA Reference Method 9 of the CFR, Title 40, Part 60.

When determining compliance with the fugitive emissions standard for grinding mills, screening operations, crushers, transfer points on belt conveyors, bucket elevators, bagging operations, storage bins, enclosed truck or railcar loading stations, building openings (if necessary), or from any other affected facility of this circuit, the duration of the Method 9 observations are required to be 30 minutes or five six minute averages. No more than 3 points may be tested concurrently by the same observer. The observations will be made by an observer currently certified to make EPA Method 9 visible emission observations. The specified criteria of NSPS - Subpart OOO must be met.

When determining compliance with the particulate matter standards for affected facilities with capture systems, Method 5 or Method 17 shall be used to determine the particulate matter concentration. Method 5I shall be used as an alternate to Method 5 if the minimal

**Permit No. 704-0027-X003**

sampling volume of 60 dscf cannot be obtained and the equipment being tested operates for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations. The required performance testing will be conducted within 60 days of the source achieving maximum production rate but no later than 180 days of initial start-up of the facility. The test reports will be submitted to the Department within 15 days of the test date.

23. EPA Method 9 repeat testing is required for affected equipment that reduce fugitive emissions without water sprays or water carryover. The repeat testing shall be conducted in 5 year intervals from the date of the previous performance test.
24. Recordkeeping of all periodic monitoring inspections is required for all baghouses and/or dry control devices. The records shall include quarterly 30-minute visible emissions inspections using EPA Method 22. The Method 22 test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner and operator must record each Method 22 test, including the date and any corrective actions taken. Records shall be kept on the facility site, either in a handwritten log book or in electronic version suitable for inspection upon request by Air Division inspectors and shall be retained for at least 2 years from the date of generation.
25. Should this facility, at any time, exceed the limits for this Air Permit, this Department must be notified within ten (10) days of the exceedance.
26. Upon issuance of the Air Permit, this unit will be limited to operating no more than 5,400 hours per twelve (12) month period (rolling average). Records of hours of operation must be kept in permanent form suitable for inspection. These records shall be retained onsite for a period of at least two (2) years and made available upon request.
27. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.
28. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.
29. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.
30. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

**Permit No. 704-0027-X003**

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Date

**MS Industries II, LLC**  
**Russellville, Alabama**  
**Permit No. 704-0027-X004**  
**PROPOSED PROVISOS**

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.
2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.
3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.
4. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.
5. In case of shutdown of air pollution control equipment for scheduled maintenance for a period greater than **(1) hour**, the intent to shut down shall be reported to the Air Division at least 24 hours prior to the planned shutdown, **unless accompanied by the immediate shutdown of the emission source.**
6. In the event there is a breakdown of equipment in such a manner as to cause increased emission of air contaminants for a period greater than **(1) hour**, the person responsible for such equipment shall notify the Air Division within an additional 24 hours and provide a statement giving all pertinent facts, including the duration of the breakdown. The Air Division shall be notified when the breakdown has been corrected.
7. This process, including all air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.
8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.
9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

**Permit No. 704-0027-X004**

10. Prior to a date to be specified by the Chief of the Air Division in the authorization to operate, emission tests are to be conducted by persons familiar with and using the EPA Sampling Train and Test Procedure as described in the Code of Federal Regulations, Title 40, Part 60, for the following pollutants. Written tests results are to be reported to the Air Division within 15 working days of completion of testing.

Particulates	(X)	Carbon Monoxide	( )
Sulfur Dioxide	( )	Nitrogen Oxides	( )
Volatile Organic Compounds	( )	Visible Emissions	(X)

11. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.
12. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.
13. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.
14. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.
15. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

- (a) The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
- (b) A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).

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- (c) A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.
- (d) A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 15 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

- 16. The bucket elevator(s) shall be enclosed and sealed. Dust emissions shall not be allowed to escape from enclosures or through seals due to holes or cracks in the enclosures or seals or due to inadequate or poor draft caused by leaks, blockages, or fan malfunctioning. Holes or cracks in enclosures or seals and/or inadequate or poor draft which allow dust emissions to escape the enclosures and/or seals must be promptly repaired.
- 17. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

- (a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;
- (b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;
- (c) by paving;
- (d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

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18. This facility is subject to New Source Performance Standards (NSPS) 40 CFR 60 Subpart OOO. This NSPS limits stack particulate emissions to 0.014 grains per dry standard cubic foot and stack visible emissions to 0% opacity. This NSPS limits visible emissions from uncontrolled crushers to 12% opacity and limits visible emissions from uncontrolled grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations, or from any other affected facility to 7% opacity. Dry control devices on individual enclosed storage bins, which are exempt from stack emission limits, are subject to a visible emissions limit of 7% opacity. Vents in a building must meet the stack particulate limit of 0.014 grains per dry standard cubic foot and stack visible emissions limit of 0% opacity. All applicable requirements of this Subpart must be met including, but not limited to, the standards for particulate matter, the monitoring of operations, test methods and procedures, and reporting and recordkeeping.
19. If this plant relocates to another site, this plant's Air Permit remains valid for this site unless or until it is revoked for failure to comply with ADEM Air Division Rules and Regulations. The owner or operator of this plant must provide written notification of the intent to relocate the plant to this site at least two weeks in advance. The written notification should include the planned construction beginning date and the projected startup date. Failure to provide this written notification is a violation of this permit condition and is grounds for revocation of this permit.
20. A properly maintained and operated device will be utilized to measure the pressure differential across each baghouse.
21. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.
22. Compliance with the opacity standards for sources subject to NSPS-Subpart OOO will be determined by conducting visible emission observations in accordance with the most recent version of EPA Reference Method 9 of the CFR, Title 40, Part 60.

When determining compliance with the fugitive emissions standard for grinding mills, screening operations, crushers, transfer points on belt conveyors, bucket elevators, bagging operations, storage bins, enclosed truck or railcar loading stations, building openings (if necessary), or from any other affected facility of this circuit, the duration of the Method 9 observations are required to be 30 minutes or five six minute averages. No more than 3 points may be tested concurrently by the same observer. The observations will be made by

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an observer currently certified to make EPA Method 9 visible emission observations. The specified criteria of NSPS - Subpart OOO must be met.

When determining compliance with the particulate matter standards for affected facilities with capture systems, Method 5 or Method 17 shall be used to determine the particulate matter concentration. Method 5I shall be used as an alternate to Method 5 if the minimal sampling volume of 60 dscf cannot be obtained and the equipment being tested operates for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations. The required performance testing will be conducted within 60 days of the source achieving maximum production rate but no later than 180 days of initial start-up of the facility. The test reports will be submitted to the Department within 15 days of the test date.

23. EPA Method 9 repeat testing is required for affected equipment that reduce fugitive emissions without water sprays or water carryover. The repeat testing shall be conducted in 5 year intervals from the date of the previous performance test.
24. Recordkeeping of all periodic monitoring inspections is required for all baghouses and/or dry control devices. The records shall include quarterly 30-minute visible emissions inspections using EPA Method 22. The Method 22 test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner and operator must record each Method 22 test, including the date and any corrective actions taken. Records shall be kept on the facility site, either in a handwritten log book or in electronic version suitable for inspection upon request by Air Division inspectors and shall be retained for at least 2 years from the date of generation.
25. Should this facility, at any time, exceed the limits for this Air Permit, this Department must be notified within ten (10) days of the exceedance.
26. Upon issuance of the Air Permit, this unit will be limited to operating no more than 5,400 hours per twelve (12) month period (rolling average). Records of hours of operation must be kept in permanent form suitable for inspection. These records shall be retained onsite for a period of at least two (2) years and made available upon request.
27. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.
28. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.
29. The permittee shall keep this permit under file or on display at all times at the site where the

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facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

30. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

\_\_\_\_\_  
Date

# SYNTHETIC MINOR OPERATING PERMIT

**PERMITTEE:** MS INDUSTRIES II, LLC  
**FACILITY NAME:** RUSSELLVILLE PLANT  
**LOCATION:** RUSSELLVILLE, ALABAMA

<u>PERMIT NUMBER</u>	<u>DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE</u>
704-0027-X001	(1) 200 TPH Dryer with Conveyors (1) Baghouse <i>SIP/NSPS Subpart 000</i>

*In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code §§22-28-1 to 22-28-23 (2006 Rplc. Vol. and 2007 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code §§22-22A-1 to 22-22A-15 (2006 Rplc. Vol. and 2007 Cum. Supp.), and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.*

**ISSUANCE DATE:** DRAFT

# SYNTHETIC MINOR OPERATING PERMIT

**PERMITTEE:** MS INDUSTRIES II, LLC  
**FACILITY NAME:** RUSSELLVILLE PLANT  
**LOCATION:** RUSSELLVILLE, ALABAMA

<u>PERMIT NUMBER</u>	<u>DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE</u>
704-0027-X002	(4) 50 TPH Screens with Conveyors and (5) Raw Storage Tanks (7) Baghouses and (5) Bin Vents <i>NSPS Subpart OOO</i>

*In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code §§22-28-1 to 22-28-23 (2006 Rplc. Vol. and 2007 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code §§22-22A-1 to 22-22A-15 (2006 Rplc. Vol. and 2007 Cum. Supp.), and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.*

**ISSUANCE DATE:** DRAFT



# SYNTHETIC MINOR OPERATING PERMIT

**PERMITTEE:** MS INDUSTRIES II, LLC  
**FACILITY NAME:** RUSSELLVILLE PLANT  
**LOCATION:** RUSSELLVILLE, ALABAMA

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
704-0027-X003	(2) 50 TPH Ball Mill Systems with Conveyors, (2) 80 Ton Silos/Fringe Bins, (2) Raw Feed Day Bins, and (5) Finished Storage Tanks/Silos  (10) Baghouses and (5) Bin Vents  <i>NSPS Subpart OOO</i>

*In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code §§22-28-1 to 22-28-23 (2006 Rplc. Vol. and 2007 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code §§22-22A-1 to 22-22A-15 (2006 Rplc. Vol. and 2007 Cum. Supp.), and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.*

**ISSUANCE DATE:** DRAFT



# SYNTHETIC MINOR OPERATING PERMIT

**PERMITTEE:** MS INDUSTRIES II, LLC  
**FACILITY NAME:** RUSSELLVILLE PLANT  
**LOCATION:** RUSSELLVILLE, ALABAMA

<b>PERMIT NUMBER</b>	<b>DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE</b>
704-0027-X004	(3) 50 TPH Telescoping Spout Loadout Systems with Conveyors and (3) Loadout Storage Tanks (6) Baghouses and (3) Bin Vents <i>NSPS Subpart OOO</i>

*In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code §§22-28-1 to 22-28-23 (2006 Rplc. Vol. and 2007 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code §§22-22A-1 to 22-22A-15 (2006 Rplc. Vol. and 2007 Cum. Supp.), and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.*

**ISSUANCE DATE:** DRAFT

Appendix C  
Cover Letter

DATE

Mr. John F. Christmas  
Chief Operations Officer  
MS Industries II, LLC - Russellville Plant  
2489 County Road 236  
Town Creek, Alabama 35672

**RE: Facility No. 704-0027  
Unit No(s). X001, X002, X003, and X004  
Russellville Plant**

The enclosed Air Permits are issued pursuant to the Department's air pollution control rules and regulations. Please note the conditions that should be observed in order to retain these permits.

New sources of air pollution receiving approval by an Air Permit must notify the Chief of the Air Division upon completion of construction and prior to operation. Authorization to Operate must then be received from the Chief of the Air Division. Failure to notify the Chief of the Air Division upon completion of construction and/or operation without authorization can result in the revocation of these Air Permits.

As required by the NSPS Subpart OOO, all tests should be completed within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup. As required by these Air Permits, MS Industries II, LLC should notify the Air Division at least 10 days in advance of any testing to allow Department personnel to attend. The test report should be submitted to the Department within 15 days of test completion.

Both Method 5 particulate emissions testing and Method 9 visible emissions testing shall be required for applicable components of these units.

Should you have any questions or require clarification of permit conditions, please do not hesitate to contact Dwayne Hunt at (334) 270-5681 in Montgomery.

Sincerely,

Ronald W. Gore, Chief  
Air Division

RWG/DAH:dah