

# ADEQ

ARKANSAS  
Department of Environmental Quality

December 23, 2013

Mike Maloney  
Plant Manager  
Unimin Corporation  
P.O. Box 29  
Guion, AR 72540-0029

Dear Mr. Maloney:

The enclosed Permit No. 0620-AR-12 is your authority to construct, operate, and maintain the equipment and/or control apparatus as set forth in your application initially received on 11/5/2013.

After considering the facts and requirements of A.C.A. §8-4-101 et seq., and implementing regulations, I have determined that Permit No. 0620-AR-12 for the construction, operation and maintenance of an air pollution control system for Unimin Corporation to be issued and effective on the date specified in the permit, unless a Commission review has been properly requested under Arkansas Department of Pollution Control & Ecology Commission's Administrative Procedures, Regulation 8, within thirty (30) days after service of this decision.

The applicant or permittee and any other person submitting public comments on the record may request an adjudicatory hearing and Commission review of the final permitting decisions as provided under Chapter Six of Regulation No. 8, Administrative Procedures, Arkansas Pollution Control and Ecology Commission. Such a request shall be in the form and manner required by Regulation 8.603, including filing a written Request for Hearing with the APC&E Commission Secretary at 101 E. Capitol Ave., Suite 205, Little Rock, Arkansas 72201. If you have any questions about filing the request, please call the Commission at 501-682-7890.

Sincerely,



Mike Bates  
Chief, Air Division

Enclosure

# ADEQ MINOR SOURCE AIR PERMIT

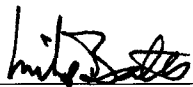
Permit No. : 0620-AR-12

IS ISSUED TO:

Unimin Corporation  
Main Street  
Guion, AR 72540  
Izard County  
AFIN: 33-00002

THIS PERMIT IS THE ABOVE REFERENCED PERMITTEE'S AUTHORITY TO CONSTRUCT, MODIFY, OPERATE, AND/OR MAINTAIN THE EQUIPMENT AND/OR FACILITY IN THE MANNER AS SET FORTH IN THE DEPARTMENT'S MINOR SOURCE AIR PERMIT AND THE APPLICATION. THIS PERMIT IS ISSUED PURSUANT TO THE PROVISIONS OF THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT (ARK. CODE ANN. SEC. 8-4-101 *ET SEQ.*) AND THE REGULATIONS PROMULGATED THEREUNDER, AND IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:



Mike Bates  
Chief, Air Division

December 23, 2013

Date

Unimin Corporation  
Permit #: 0620-AR-12  
AFIN: 33-00002

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#### List of Acronyms and Abbreviations

A.C.A.	Arkansas Code Annotated
AFIN	ADEQ Facility Identification Number
CFR	Code of Federal Regulations
CO	Carbon Monoxide
HAP	Hazardous Air Pollutant
lb/hr	Pound Per Hour
No.	Number
NO <sub>x</sub>	Nitrogen Oxide
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter Smaller Than Ten Microns
SO <sub>2</sub>	Sulfur Dioxide
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

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Section I: FACILITY INFORMATION

PERMITTEE: Unimin Corporation

AFIN: 33-00002

PERMIT NUMBER: 0620-AR-12

FACILITY ADDRESS: Main Street  
Guion, AR 72540

MAILING ADDRESS: P.O. Box 29  
Guion, AR 72540-0029

COUNTY: Izard County

CONTACT NAME: Mike Maloney

CONTACT POSITION: Plant Manager

TELEPHONE NUMBER: 870-346-5301

REVIEWING ENGINEER: Shawn Hutchings

UTM North South (Y): Zone 15: 3976028.68 m

UTM East West (X): Zone 15: 595644.69 m

## Section II: INTRODUCTION

### Summary of Permit Activity

Unimin Corporation owns and operates a silica sand mine and processing plant in Guion (Izard County). This deminimis permit is to remove the specific product names from the usage limits for SN-56 and replace them with general name and content limits.

### Process Description

Sandstone is mined using underground room and pillar and open pit mining methods. The broken sandstone is loaded into off-highway end dump haul trucks by a front-end loader and is hauled to the dump hopper (SN-12) or stockpiled. The sandstone is screened by the grizzly feeder screen (SN-19). Fine material is screened off prior to crushing and deposited on the discharge belt (SN-02A). The oversize material is gravity fed to the primary jaw crusher (SN-25). The oversized material is crushed and deposited onto the discharge belt (SN-02A) on top of the finer material. The material is transferred to the belt conveyor (SN-03) that conveys the material to the vibrating scalping screen (SN-22). The fine material is scalped off and deposited onto the discharge belt (SN-04). The oversize material is crushed in the crusher (SN-26) and is deposited onto the discharge belt (SN-29) and returned to SN-03. This material on SN-04 is conveyed to a reversing conveyor (SN-28) and then to the raw sand silos (SN-15, SN-16), where it is stored in preparation for processing.

Material is discharged from the raw sand silos, via feeders (SN-20, SN-21), onto the raw sand silo discharge belt (SN-05) and is conveyed to the stationary screen (SN-09). The fine material is removed and deposited into a product sump. The coarse material empties into the enclosed vertical shaft impact (VSI) crusher (SN-27). The sand discharged from the VSI crusher is deposited into a vibrating screen (SN-24). The fine material is deposited in a product sump, while the oversize material is conveyed (SN-06) to the VSI system to be reprocessed.

The sand in the product sump is pumped through a flotation circuit that removes clay and fine sand. The clay and fine sand are routed to tailings. The washed sand is pumped to dewatering cyclones and is discharged onto damp stockpiles (SN-10) for moisture drainage. The damp sand (3 - 7% moisture) is moved with a front-end loader to the stockpile discharge belt (SN-07), via a hopper (SN-13), to a grizzle feeder (SN-33). The discharge from the grizzle feeder is to a surge bin (SN-34) via a belt conveyor (SN-32). The surge bin (SN-34) discharges to a belt conveyor (SN-08) and then is transferred to the dryer.

The dryer feed belt (SN-08) transports the sand into the dryer building and discharges into a feed chute that feeds a natural gas-fired fluid bed dryer. After drying, the sand is discharged into a bucket elevator and is transferred to a covered mill run conveyor. Particulate emissions from the dryer and the bucket elevator are controlled by a wet scrubber (SN-01) with 99% removal efficiency. The products of combustion from the dryer are also vented through SN-01. Fabric filter dust collector DC-05 (SN-43) controls the particulate emissions from the bucket elevator.

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The sand is transported via the mill run conveyor to the screen house. Primary and clean-up screening is performed in the primary screen house in order to separate the coarse sand from secondary feed. Secondary screen circuit feed reports to the new building via bucket elevator and chute work to the secondary screen circuit feed bin. Individual secondary screens are fed from the bin via chute work. Once the secondary feed is broken into its various sizes after passing through the screening machines, it is transferred from the new to primary screen house building via belt conveyors and bucket elevators. Various sand grades report either directly to finished product bins or to the tertiary screen circuit for final size separation. The grades are either sold as is or blended to produce final products that are loaded into railcars or trucks. Dust from the screen house and the truck load out #1 is controlled by the screen house wet scrubber (SN-02), which has a 99% removal efficiency. The fabric filter dust collector DC-03 (SN-41) collects dust from all of the equipment in the new screen building. Fabric filter dust collector DC-04 (SN-42) controls emissions from the surge bin and load out spout associated with truck load out #2.

#### Portable Crushing Process

Material is dumped by a front-end loader into a hopper (SN-35) that conveys the material to a crusher (SN-37) via a feeder (SN-36). The crushed material is discharged from the crusher to the stacking conveyor (SN-38) and then to the product stockpiles (SN-39). The portable crushing units are powered by a generator (SN-40).

#### Resin Coating Process – Plant 2

There will be two lines at this facility, each performing batch operations. The average process rate is 15 batches per hour. The maximum process rate incorporates a conservative 20 percent contingency factor to the design process rate equating to a total of 18 batches per hour. In each line, the substrate travels via a series of conveyors and bucket elevators through a storage tank, a day tank, and a weigh hopper before reaching the heaters.

There are 3 sand storage tanks. Sand will be conveyed from the sand plant via 2 belt conveyers to 2 storage tanks that are dust collected (SN-47). Sand can also be introduced to the system from rail unloading and truck unloading (SN-44, SN-45) to the 3 storage tanks. Emissions from the day tanks and weigh hoppers are routed to dust collectors (SN-48) as well. In the heaters, the substrate is heated prior to being combined with the resin and additives in a batch mixer and a subsequent continuous mixer to form resin-coated substrates. Emissions from the heaters are routed to a baghouse (SN-49). Emissions from the batch mixer are routed to a thermal oxidizer (SN-56).

The resin-coated substrate then travels via another series of conveyers and bucket elevators through screening operations, a cooler, and storage tanks, before the final product is loaded into railcars and trucks for shipment offsite. Emissions from the screening operations, coolers, storage tanks and finishing screening, are routed to baghouses (SN-48, SN-52)). Emissions from railcar and truck loading are routed to designated dust collectors (SN-54, SN-55).

Plant 1 equipment is not subject to 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. Although the resin coating process, Plant 2, is connected to the nonmetallic mineral processing plant, Plant 1, by means of a conveying system,

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the resin coating process which will use the processed sand is not considered part of the nonmetallic mineral production line.

### Regulations

The following table contains the regulations applicable to this permit.

Regulations
Arkansas Air Pollution Control Code, Regulation 18, effective June 18, 2010
Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective July 27, 2013
40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants
40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.
40 CFR 63, Subpart ZZZZ – National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

### Total Allowable Emissions

The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit.

TOTAL ALLOWABLE EMISSIONS		
Pollutant	Emission Rates	
	lb/hr	tpy
PM	33.3	120.4
PM <sub>10</sub>	14.5	42.1
SO <sub>2</sub>	0.7	0.9
VOC	6	23.6
CO	6.1	21.4
NO <sub>x</sub>	14.1	44.7
Formaldehyde*	2.21	9.51
Methanol	0.1	0.3
Phenol*	2.2	9.5
Ammonia**	0.01	0.01



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### Section III: PERMIT HISTORY

Permit # 0620-A was issued to Silica Products, Incorporated on 4/18/80 in order to expand its operation and control sand particle emissions by utilizing a wet scrubber which has an efficiency greater than 99%.

Permit # 0620-AR-1 was issued to Unimin Corp. on 3/16/94 as a modification in order to update the previous permit. This permit allowed for continuous operation of the facility subject to regulation under the *Arkansas Air Pollution Control Code* and the *Arkansas State Implementation Plan for Air Pollution Control*.

Permit modification #0620-AR-2 dated 7/11/96 was issued to document equipment changes and/or additions at the beginning and at the end of the process line. The equipment changes are documented in a table. The new emission sources are a conveyor belt that will recycle oversized material (SN-18) and a feeder discharge belt (SN-02A). Permitted emissions will be reduced.

Permit modification # 0620-AR-3 dated 4/24/97 was issued to quantify PM<sub>10</sub> emissions less than 100 tpy in order to reclassify the facility as a synthetic minor source and therefore be exempt from Regulation 26. The permit was also issued to assign new source numbers to provide a logical process flow. The facility also replaced several pieces of equipment and constructed two new conveyors.

Permit modification # 0620-AR-4 dated 12/29/04 was issued to install a Bulk Bagger (BG-02) designated as SN-31. It also updated emissions limits which are based upon current AP-42 emission factors.

Permit modification # 0620-AR-5 dated 6/8/05 was issued to allow the replacement of two belt conveyors (SN-07 and SN-08) and a hopper (SN-13). It also allowed for the installation of two new belt conveyors (SN-32 and SN-36), a grizzle feeder (SN-33), a vibrating screen (SN-34), and a surge bin (SN-35). With those modifications the updated emission limits increased the PM emissions by 3.8 tpy and the PM<sub>10</sub> emissions by 1.5 tpy.

Permit # 0620-AR-6 was issued on October 30, 2006. A new portable crushing plant consisting of a hopper (SN-35), feeder (SN-36), a crusher (SN-37), and a stacking belt conveyor (SN-38) was installed. The stacking belt conveyor discharges the material into a product stockpile (SN-39). The portable crushing plant is powered by a diesel generator (SN-40). A vibrating screen (SN-34) and a belt conveyor (SN-36) were removed from the permit because the equipment was not installed. Because all of the equipment was not installed, the Surge Bin SB-01 (SN-35) was renamed as Surge Bin SB-01 (SN-34). Unimin also renamed SN-07 from BC-04 to BC-04A and SN-32 from BC-04A to BC-04B. The permitted emission increases 2.5 tpy of PM, 1.5 tpy of PM<sub>10</sub>, 0.4 tpy of SO<sub>2</sub>, 0.5 tpy of VOC, 0.9 tpy of CO, and 4.9 tpy of NO<sub>x</sub>.

Permit # 0620-AR-7 was issued on March 24, 2008 to allow the installation of a vibrating screen, five screw conveyors, a bin, and truck loadout. The emission will be vented to an existing Screen House Collection System with scrubber (SN-02). Additionally, Specific Condition 14 (initial performance test requirement for SN-35, 36, 37, 38, and 39) was removed because the

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equipment is not subject to 40 CFR 60 Subpart OOO. The permitted emission increases 1.4 tons per year (tpy) PM and 0.12 tpy of PM<sub>10</sub>.

Permit # 0620-AR-8 was issued on December 10, 2009 to allow the installation of the following process equipment: 4 belt conveyors and 5 bucket elevators, which are controlled by the existing screenhouse wet scrubber SN-02 (WS-02), one feed bin and 4 product screens, which are controlled by dust collector SN-41 (DC-03) and one each belt conveyor, storage bin, and truck loadout which are controlled by dust collector SN-42 (DC-04). The total increase in emissions were 7.8 tons per year (tpy) of PM and 2.8 tpy of PM<sub>10</sub>.

Permit # 0620-AR-9 was issued on January 18, 2011 to replace bucket elevator BE-01 (SN-01) which increased throughput capacity. BE-01 (SN-01) is subject to 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. VSI Crusher CR-03 (SN-27) was replaced with a crusher that was rated at the same capacity. The total permitted emission increases were 4.7 tpy of PM and 2.6 tpy of PM<sub>10</sub>.

Permit # 0620-AR-10 was issued on August 8, 2011 to add a resin coating operation Plant 2 – SN-43 through SN-69, move BE-01 from SN-01 to SN-43, add SC-301, SC-302, BC-301, and BC-310 to SN-02, replace equipment for SN-20 and SN-21, add the following storage tanks as Insignificant Activities - T-412, T-413, T-404, and T-636, and remove the out of service bagging operation (SN-09, SN-11, SN-16, SN-17, SN-30, and SN-31). All Plant 1 new equipment is subject to 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. The total permitted emissions increases were 1.7 tpy PM, 7.5 tpy PM<sub>10</sub>, 19.1 tpy VOC, 6.0 tpy CO, 7.1 tpy NO<sub>x</sub>, 9.47 tpy Formaldehyde, 6.31 tpy Phenol, and 0.01 tpy Ammonia. Total decreases in emissions were 0.5 tpy SO<sub>2</sub>.

Permit 620-AR-11 was issued on June 20, 2012. This De minimis permit modification was issued to replace BE-08 bucket Elevator for SN-02 with no change in permitted capacity, add HO-301 Rail Car Hopper for SN-46, and add WF-501 Weigh Feeder for SN-55. Typographical emission errors were corrected as follows: SN-39 - PM<sub>10</sub> was 0.2 lb/hr; should be 0.7 lb/hr, SN-11 - source was removed but PM emissions were not removed, SN-16 - source was removed but PM emissions were not removed, and SN-57 - PM was 0.1 tpy; should be 0.3 tpy.

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Section IV: EMISSION UNIT INFORMATION

Specific Conditions

- The permittee shall not exceed the emission rates set forth in the following table.  
 [Regulation 19 §19.501 et seq. and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Control Equipment	Pollutant	lb/hr	tpy
01	Natural Gas Fired Fluid Bed Dryer Dust Collection System – Wet Scrubber. Dryer Burner (BU-01)	Particulate emissions and products of combustion are controlled and vented through cyclone on wet scrubber. (99% efficient)	PM <sub>10</sub>	2.4	10.5
			SO <sub>2</sub>	0.1	0.3
			VOC	0.3	1.0
			CO	3.3	14.3
			NO <sub>x</sub>	7.8	34.1
02	Screen House Collection System	Wet Scrubber (98.5% efficient)	PM <sub>10</sub>	1.5	6.3
02A	Grizzly Feeder Discharge Belt (BC-00)	NONE	PM <sub>10</sub>	0.1	0.1
03	Jaw Crusher Discharge Belt (BC-01)	NONE	PM <sub>10</sub>	0.1	0.1
04	Hammer Mill Discharge Belt (BC-02)	NONE	PM <sub>10</sub>	0.1	0.1
05	Raw Sand Silo Discharge Belt (BC-03A)	NONE	PM <sub>10</sub>	0.1	0.1
06	Vibrating Screen Feeder Belt (BC-03C)	NONE	PM <sub>10</sub>	0.1	0.1
07	Stockpile Discharge Belt (BC-04A)	NONE	PM <sub>10</sub>	0.1	0.1
08	Dryer Freed Belt (BC-05)	NONE	PM <sub>10</sub>	0.1	0.1
10	Plant Feed Stockpiles	NONE	PM <sub>10</sub>	0.9	3.6
12	Feed Hopper (HO-01)	NONE	PM <sub>10</sub>	0.1	0.1
13	Drain Bin Hopper (HO-02)	NONE	PM <sub>10</sub>	0.1	0.1
14	Raw Sand Silo (BN-01)	NONE	PM <sub>10</sub>	0.1	0.4
15	Raw Sand Silo (BN-02)	NONE	PM <sub>10</sub>	0.2	0.4
18	Recycle Conveyor (BC-03B)	NONE	PM <sub>10</sub>	0.1	0.1
19	Jaw Crusher Vibratory Feeder (FE-01)	NONE	PM <sub>10</sub>	0.1	0.1
20	Raw Sand Vibratory Feeder (FE-03)	NONE	PM <sub>10</sub>	0.1	0.1
21	Raw Sand Vibratory Feeder (FE-04)	NONE	PM <sub>10</sub>	0.1	0.1
22	Vibrating Scalping Screen (VS-01)	NONE	PM <sub>10</sub>	0.3	1.3
23	Fresh Feed Vibrating Screen (VS-02)	NONE	PM <sub>10</sub>	0.3	1.2
24	VSI Discharge Screen (VS-03)	NONE	PM <sub>10</sub>	0.1	0.1
25	Primary Jaw Crusher (CR-01)	NONE	PM <sub>10</sub>	0.3	1.0
26	Hammer Mill (CR-02)	NONE	PM <sub>10</sub>	0.2	1.0
27	VSI Crusher (CR-03)	NONE	PM <sub>10</sub>	0.3	1.0
28	Transfer Belt (BC-02A)	NONE	PM <sub>10</sub>	0.1	0.1
29	Recirculation Belt (BC-01A)	NONE	PM <sub>10</sub>	0.1	0.1
32	Belt Conveyor (BC-04B)	NONE	PM <sub>10</sub>	0.1	0.1
33	Grizzle Feeder (GF-01)	NONE	PM <sub>10</sub>	0.1	0.1
34	Surge Bin (SB-01)	NONE	PM <sub>10</sub>	0.1	0.3

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SN	Description	Control Equipment	Pollutant	lb/hr	tpy	
35	Hopper (HO-200)	NONE	PM <sub>10</sub>	0.3	0.3	
36	Feeder (FE-200)	NONE	PM <sub>10</sub>	0.3	0.3	
37	Crusher (CR-200)	NONE	PM <sub>10</sub>	0.5	0.5	
38	Stacking Belt Conveyor (BC-200)	NONE	PM <sub>10</sub>	0.3	0.3	
39	Product Stockpile	NONE	PM <sub>10</sub>	0.7	0.7	
40	Diesel Generator (GE-200)	NONE	PM <sub>10</sub>	0.4	0.4	
			SO <sub>2</sub>	0.4	0.4	
			VOC	0.4	0.4	
			CO	1.1	1.1	
			NO <sub>x</sub>	4.9	4.9	
41	Secondary Screen Collection – Dust Collector	Fabric Filter (98.5% efficient)	PM <sub>10</sub>	0.2	0.5	
42	Loading Collection – Dust Collector	Fabric Filter (98.5% efficient)	PM <sub>10</sub>	0.1	0.3	
43	Bucket Elevator (BE-01)	Fabric Filter (86.7% efficient)	PM <sub>10</sub>	0.1	0.2	
44	Rail Car Unloading (BC-302)	NONE	PM <sub>10</sub>	0.4	1.5	
45	Truck Loading (BC-304)	NONE	PM <sub>10</sub>	0.3	1.0	
46	Railcar Unloading BH-316	Baghouse (90.4% efficient)	PM <sub>10</sub>	0.2	0.6	
47	Raw Material Storage BH-320	Baghouse (94.7% efficient)	PM <sub>10</sub>	0.3	1.0	
48	Process Area BH-629	Baghouse (98% efficient)	PM <sub>10</sub>	0.2	0.7	
49	Heater Exhaust BH-602		Baghouse (86% efficient)	PM <sub>10</sub>	0.5	2.1
			SO <sub>2</sub>	0.1	0.1	
			VOC	0.1	0.3	
			CO	1.1	4.7	
			NO <sub>x</sub>	1.3	5.6	
52	Finished Storage Area BH-509	Baghouse (78.4% efficient)	PM <sub>10</sub>	0.2	0.6	
53	Finished Material Storage Area BH-511	Baghouse (91.5% efficient)	PM <sub>10</sub>	0.1	0.5	
54	Finish Material Truck Loading BH-510	Baghouse (88% efficient)	PM <sub>10</sub>	0.1	0.3	
55	Finish Material Rail Loading BH-512	Baghouse (94.9% efficient)	PM <sub>10</sub>	0.2	0.5	
56	Batch Mixer	Regenerative Thermal Oxidizer (RTO-601)	PM <sub>10</sub>	0.1	0.1	
			SO <sub>2</sub>	0.1	0.1	
			VOC	5.0	21.7	
			CO	0.3	1.2	
			NO <sub>x</sub>	0.3	1.4	
57	Solid Resin BH-122	Baghouse (88.8% efficient)	PM <sub>10</sub>	0.1	0.1	
58	Natural Gas Emergency Generator	NONE	PM <sub>10</sub>	0.1	0.1	

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SN	Description	Control Equipment	Pollutant	lb/hr	tpy
			SO <sub>2</sub>	0.1	0.1
			VOC	0.1	0.1
			CO	0.3	0.1
			NO <sub>x</sub>	0.1	0.1
59	Liquid Resin Storage Tank T-406	NONE	VOC	0.1	0.1
66	Off Spec Material Hopper HO-641	NONE	PM <sub>10</sub>	0.1	0.1
67	Off Spec Material Transfer Conveyor BC-641	NONE	PM <sub>10</sub>	0.1	0.1
68	Off Spec Storage Tank T-462	NONE	PM <sub>10</sub>	0.1	0.2
69	Off Spec Truck Loading LS-523	NONE	PM <sub>10</sub>	0.1	0.3

2. The permittee shall not exceed the emission rates set forth in the following table.  
 [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Control Equipment	Regulation	Pollutant	lb/hr	tpy
01	Natural Gas Fired Fluid Bed Dryer Dust Collection System Dryer Burner: (BU-01)	Particulate emissions and products of combustion are controlled and vented through cyclone on wet scrubber. (99% efficient)	SIP	PM	5.2	22.4
02	Screen House Collection System	Wet Scrubber	NSPS	PM	7.0	30.6
02A	Grizzly Feeder Discharge Belt (BC-00)	NONE	NSPS	PM	0.1	0.3
03	Jaw Crusher Discharge Belt (BC-01)	NONE	NSPS	PM	0.1	0.3
04	Hammer Mill Discharge Belt (BC-02)	NONE	NSPS	PM	0.1	0.3
05	Raw Sand Silo Discharge Belt (BC-03A)	NONE	NSPS	PM	0.1	0.3
06	Vibrating Screen Feeder Belt (BC-03C)	NONE	NSPS	PM	0.1	0.3
07	Stockpile Discharge Belt (BC-04A)	NONE	NSPS	PM	0.1	0.2
08	Dryer Feed Belt (BC-05)	NONE	NSPS	PM	0.1	0.2
10	Dryer Feed Stockpile	NONE	SIP	PM	2.4	10.3
12	Feed Hopper (HO-01)	NONE	SIP	PM	0.1	0.3
13	Drain Bin Hopper (HO-02)	NONE	SIP	PM	0.1	0.2
14	Raw Sand Silo (BN-01)	NONE	SIP	PM	0.2	0.9

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SN	Description	Control Equipment	Regulation	Pollutant	lb/hr	tpy
15	Raw Sand Silo (BN-02)	NONE	SIP	PM	0.2	0.9
18	Recycle Conveyor (BC-03B)	NONE	SIP	PM	0.1	0.2
19	Grizzly Feeder Screen (FE-01)	NONE	SIP	PM	0.1	0.3
20	Raw Sand Feeders (FE-03)	NONE	NSPS	PM	0.1	0.3
21	Raw Sand Feeder (FE-04)	NONE	NSPS	PM	0.1	0.3
22	Vibrating Scalping Screen (VS-01)	NONE	NSPS	PM	0.9	3.9
23	Vibrating Screen (VS-02)	NONE	NSPS	PM	0.8	3.4
24	Vibrating Screen (VS-03)	NONE	NSPS	PM	0.1	0.2
25	Primary Jaw Crusher (CR-01)	NONE	SIP	PM	0.5	2.1
26	Hammer Mill (CR-02)	NONE	NSPS	PM	0.5	1.9
27	Crusher (CR-03)	NONE	NSPS	PM	0.5	1.9
28	Transfer Belt (BC-02A)	NONE	NSPS	PM	0.1	0.1
29	Recirculation Belt (BC-01A)	NONE	NSPS	PM	0.1	0.3
32	Belt Conveyor (BC-04B)	NONE	NSPS	PM	0.1	0.2
33	Grizzle Feeder (GF-01)	NONE	NSPS	PM	0.1	0.2
34	Surge Bin (SB-01)	NONE	NSPS	PM	0.2	0.7
35	Hopper (HO-200)	NONE	AR Code	PM	0.6	0.6
36	Feeder (FE-200)	NONE	AR Code	PM	0.6	0.6
37	Crusher (CR-200)	NONE	AR Code	PM	1.1	1.1
38	Stacking Belt Conveyor (BC-200)	NONE	AR Code	PM	0.6	0.6
39	Product Stockpile	NONE	AR Code	PM	1.9	1.9
40	Diesel Generator (GE-200)	NONE	SIP	PM	0.4	0.4
41	Secondary Screen Collection – Dust Collector	Fabric Filter (98.5% efficient)	NSPS	PM	0.9	3.5
42	Loading Collection – Dust Collector	Fabric Filter (98.5% efficient)	NSPS	PM	1.2	5.0
43	Bucket Elevator (BE-01)	Fabric Filter (86.7% efficient)	NSPS	PM	0.1	0.5
44	Rail Car Unloading (BC-302)	NONE	AR Code	PM	0.9	4.0
45	Truck Loading (BC-304)	NONE	AR Code	PM	0.6	2.7
46	Railcar Unloading BH-316	Baghouse (95.3% efficient)	AR Code	PM	0.2	0.8
47	Raw Material Storage BH-	Baghouse	NSPS	PM	0.6	2.5

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SN	Description	Control Equipment	Regulation	Pollutant	lb/hr	tpy
	320	(99% efficient)				
48	Process Area BH-629	Baghouse (99.4% efficient)	AR Code	PM	0.3	1.3
49	Heater Exhaust BH-602	Baghouse (97.3% efficient)	AR Code	PM	0.8	3.4
52	Finished Storage Area BH-509	Baghouse (95.1% efficient)	AR Code	PM	0.3	1.2
53	Finished Material Storage Area BH-511	Baghouse (94.4% efficient)	AR Code	PM	0.2	0.8
54	Finish Material Truck Loading BH-510	Baghouse (98.1% efficient)	AR Code	PM	0.2	0.8
55	Finish Material Rail Loading BH-512	Baghouse (99.4% efficient)	AR Code	PM	0.3	1.0
56	Batch Mixer	RTO 96% efficient	AR Code	PM	0.1	0.2
				Formaldehyde	2.2	9.5
				Methanol	0.1	0.3
				Phenol	2.2	9.5
				Ammonia	0.01	0.01
57	Solid Resin BH-122	Baghouse (98.4% efficient)	AR Code	PM	0.1	0.3
58	Natural Gas Emergency Generator	NONE	NSPS	PM	0.1	0.1
59	Liquid Resin Storage Tank T-406	NONE	AR Code	Formaldehyde	0.01	0.01
66	Off Spec Material Hopper HO-641	NONE	AR Code	PM	0.1	0.2
67	Off Spec Material Transfer Conveyor BC-641	NONE	AR Code	PM	0.1	0.2
68	Off Spec Storage Tank T-462	NONE	AR Code	PM	0.6	2.5
69	Off Spec Truck Loading LS-523	NONE	AR Code	PM	0.2	0.7

3. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Limit	Regulatory Citation
01	10 - Dryer and Scrubber	§18.501
02	10	§18.501
02A	10	§19.503
03	10	§19.503

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SN	Limit	Regulatory Citation
04	10	§19.503
05	10	§19.503
06	10	§19.503
07	10	§19.503
08	10	§19.503
10	20	§18.501
12	20	§19.503
13	20	§19.503
14	20	§18.501
15	20	§18.501
18	10	§19.503
19	10	§19.503
20	20	§18.501
21	20	§18.501
22	10	§19.503
23	10	§19.503
24	10	§18.501
25	20	§18.501
26	15	§19.503
27	15	§19.503
28	10	§19.503
29	10	§19.503
32	10	§19.503
33	10	§19.503
34	10	§19.503
35	20	§18.501
36	20	§18.501
37	20	§18.501
38	20	§18.501
39	20	§18.501
40	20	§19.503
41	20	§18.501
42	20	§18.501
43	10	§19.503
44	10	§19.503
45	10	§19.503
46	10	§19.503



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SN	Limit	Regulatory Citation
47	10	§19.503
48	10	§19.503
49	10	§19.503
52	10	§19.503
53	10	§19.503
54	10	§19.503
55	10	§19.503
56	5	§18.501
57	10	§19.503
58	5	§19.503
59	0	§19.503
66	12	§19.503
67	10	§19.503
68	12	§19.503
69	10	§19.503

4. The permittee shall not cause or permit the emission of air contaminants, including odors or water vapor and including an air contaminant whose emission is not otherwise prohibited by Regulation #18, if the emission of the air contaminant constitutes air pollution within the meaning of A.C.A. §8-4-303. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
5. The permittee shall not conduct operations in such a manner as to unnecessarily cause air contaminants and other pollutants to become airborne. [Regulation 18 §18.901 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
6. The permittee shall not exceed the maximum process material, including sand, resin, and chemical additives, input rate from the fixed facility in excess of that specified in the confidential permit application dated February 1, 2012 per consecutive 12 month period. [Regulation 19, §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
7. The permittee shall maintain a copy of the confidential permit application dated March 17, 2011 on site and maintain monthly records which demonstrate compliance with Specific Condition #6. The permittee shall update the records by the fifteenth day of the month following the month to which the records pertain. The permittee shall keep the records onsite, and make the records available to Department personnel upon request. [Regulation 19, §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
8. The permittee shall not exceed the maximum process material input rate from the portable crushing plant in excess of that specified in the confidential permit application dated June 12, 2006 per consecutive 12 month period. [Regulation 19, §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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9. The permittee shall not exceed the maximum fuel usage for the diesel generator for the portable crushing plant in excess of that specified in the confidential permit application dated June 12, 2006 per consecutive 12 month period. [Regulation 19, §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
10. The permittee shall maintain a copy of the confidential permit application dated June 12, 2006 on site and maintain monthly records which demonstrate compliance with Specific Conditions #8 and #9. The permittee shall update the records by the fifteenth day of the month following the month to which the records pertain. The permittee shall keep the records onsite, and make the records available to Department personnel upon request. [Regulation 19, §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
11. The permittee shall only use *pipeline quality natural gas* or *Propane* to fire the fluid bed dryer located at the facility. *Pipeline quality natural gas* is defined as a natural gas which contains 0.5 grains or less of total sulfur per 100 standard cubic feet, and pipeline natural gas must either be composed of at least 70 percent methane by volume or has a gross calorific value between 950 and 1100 Btu per standard cubic foot. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, 40 CFR §70.6, and 40 CFR §72.2]
12. The permittee shall operate the wet scrubber (SN-01) during the processing of silica sand material. [Regulation 19, §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

#### NSPS Conditions

13. The permittee shall comply with all applicable regulations under the New Source Performance Standards of 40 CFR Part 60, Subpart OOO-*Standards of Performance for Nonmetallic Mineral processing Plans*. The permittee shall be limited to the following affected applicable sources in the fixed and portable nonmetallic mineral processing plant: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. [Regulation 19, §19.304, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §60.670]
14. On and after the date on which the performance test required to be conducted by §60.8 is completed, the permittee shall not cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any stack emissions which:
  1. Contain particulate matter in excess of 0.032 g/dscm (0.014 gr/dscf) for equipment installed after April 22, 2008. [Regulation 19, §19.304 and 40 CFR §60.672 (a)]
  2. Contain particulate matter in excess of 0.05 g/dscm (0.022 gr/dscf) for equipment installed after August 31, 1983 but before April 22, 2008. [Regulation 19, §19.304 and 40 CFR §60.672]

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3. Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing control device. Facilities using a wet scrubber must comply with the reporting provisions of Specific Conditions #31, #34, and #35. [Regulation 19, §19.304 and 40 CFR §60.672 (a)(1)(2)]
15. The permittee, as an affected facility that commence construction, modification, or reconstruction on or after April 22, 2008 and with capture systems used to capture and transport particulate matter to a control device, shall conduct an initial performance test according to §60.8 of this part and §60.675 of this subpart; and perform monitoring of wet scrubber parameters according to §60.674(a) and §60.676(c), (d), and (e). Affected facilities must meet the stack emission limits and compliance requirements in Table 2 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.8. [Regulation 19, §19.304 and 40 CFR § 60.672(a)]
16. On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11, the permittee shall not cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity (installed before April, 2008) or which exhibit greater than 7 percent opacity (installed after April, 2008), except as provided in Specific Conditions #17 and #18. See appendix C for equipment list. [Regulation 19, §19.304 and 40 CFR §60.672 (b)]
17. On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11, the permittee shall not cause to be discharged into the atmosphere from any crusher (SN-26 and SN-27), at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity. [Regulation 19, §19.304 and 40 CFR §60.672 (c)]
18. If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in Specific Conditions #14, #16, & #17 or the building enclosing the affected facility or facilities must comply with the following emission limits: [Regulation 19, §19.304 and 40 CFR §60.672 (e)(1)(2)]
  - a. The permittee shall not cause to be discharged into the atmosphere from any building enclosing any transfer point on a conveyor belt or any other affected facility any visible fugitive emissions from the building openings, except emissions from a vent, must not exceed 7 percent opacity.
  - b. The permittee shall not cause to be discharged into the atmosphere from any vent of any building enclosing any transfer point on a conveyor belt or any other affected facility emissions which exceed the stack emissions limits in Specific Condition 14.
19. Any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance

testing) but must meet the applicable stack opacity limit and compliance requirements in Specific Condition #14. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions. [Regulation 19, §19.304 and 40 CFR §60.672(f)]

20. When using a wet scrubber to control emissions from any affected facility (SN-01 and SN-02), the permittee shall install, calibrate, maintain and operate the following monitoring devices: [Regulation 19, §19.304 and 40 CFR §60.674 (a)(b)]
  - a. A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 250$  pascals  $\pm 1$  inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.
  - b. A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 5$  percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.
21. The permittee must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expeditiously as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under §60.676(b). [Regulation 19, §19.304 and 40 CFR §60.674(b), (b)(1), (b)(1)(i&ii) and (b)(2)]
  1. If an affected facility relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of this subpart provided that the affected facility meets the criteria in paragraphs (b)(1)(i) and (ii) of this section:
    - i. The owner or operator of the affected facility conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to paragraph (b) of this section and §60.676(b), and
    - ii. The owner or operator of the affected facility designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under §60.11 of this part and §60.675 of this subpart.
  2. If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under §60.676(b) must specify the control mechanism being used instead of the water sprays.

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22. The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A-7). The Method 22 (40 CFR part 60, Appendix A-7) 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 or operator must record each Method 22 (40 CFR part 60, Appendix A-7) test, including the date and any corrective actions taken, in the logbook required in Specific Condition #31. The owner or operator of the affected facility may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to Specific Condition #25 simultaneously with a Method 22 (40 CFR part 60, Appendix A-7) to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Specific Condition #14. The revised visible emissions success level must be incorporated into the permit for the affected facility. [Regulation 19, §19.304 and 40 CFR §60.674(c)]
23. As an alternative to Specific Condition #22, the owner or operator that uses a baghouse to control emissions may use a bag leak detection system. The owner or operator must install, operate, and maintain the bag leak detection system according to the following: [Regulation 19, §19.304 and 40 CFR §60.674(d)]
  - a. Each bag leak detection system must meet the specifications and requirements as follows:
    - i. The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.
    - ii. The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).
    - iii. The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.
    - iv. In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

- v. Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (vi) of this section.
  - vi. Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (b).
  - vii. The owner or operator must install the bag leak detection sensor downstream of the fabric filter.
  - viii. Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.
- b. The owner or operator of the affected facility must develop and submit to the Administrator for approval of a site-specific monitoring plan for each bag leak detection system. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in the following paragraphs:
- i. Installation of the bag leak detection system;
  - ii. Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;
  - iii. Operation of the bag leak detection system, including quality assurance procedures;
  - iv. How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;
  - v. How the bag leak detection system output will be recorded and stored; and
  - vi. Corrective action procedures as specified in paragraph (c) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.
- c. For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (b)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

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- i. Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;
  - ii. Sealing off defective bags or filter media;
  - iii. Replacing defective bags or filter media or otherwise repairing the control device;
  - iv. Sealing off a defective fabric filter compartment;
  - v. Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or
  - vi. Shutting down the process producing the PM emissions.
24. In conducting the performance tests required in §60.8, the permittee shall use as reference methods and procedures the test methods in appendix A of 40 CFR 60, Subpart A or other methods and procedures as specified in Specific Condition #25 through #30, except as provided in §60.8(b). [Regulation 19, §19.304 and 40 CFR §60.675 (a)]
25. The permittee shall determine compliance with the particulate matter standards in Specific Condition #14 as follows: [Regulation 19, §19.304 and 40 CFR §60.675 (b)]
  - a. Method 5 or Method 17 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.
26. In determining compliance with the particulate matter standards in Specific Conditions #16 & #17, the permittee shall use Method 9 and the procedures in §60.11, with the following additions: [Regulation 19, §19.304 and 40 CFR §60.675 (c)(1)]
  - a. The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
  - b. The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.
  - c. For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

27. When determining compliance with the fugitive emissions standard for any affected facility described under Specific Condition #16, the duration of the Method 9 observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Specific Condition #16 must be based on the average of the five 6-minute averages. [Regulation 19, §19.304 and 40 CFR §60.675 (c)(3)]
28. When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used as described under Specific Condition #17, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply: [Regulation 19, §19.304 and 40 CFR §60.675 (c)(4)]
  - a. There are no individual readings greater than 15 percent opacity; and
  - b. There are no more than 3 readings of 15 percent for the 1-hour period.
29. In determining compliance with Specific Condition #18, the permittee shall use Method 9 to determine fugitive emissions. The performance test shall be conducted while all affected facilities inside the building are operating. The performance test for each building shall be at least 75 minutes in duration, with each side of the building and the roof being observed for at least 15 minutes. [Regulation 19, §19.304 and 40 CFR §60.675 (d)]
30. To comply with Specific Condition #34, the permittee shall record the measurements as required in Specific Condition #31 using the monitoring devices in Specific Condition #19 during each particulate matter run and shall determine the averages. [Regulation 19, §19.304 and 40 CFR §60.675 (f)]
31. The permittee must record each periodic inspection required under §60.674(b) or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request. [Regulation 19, §19.304 and 40 CFR §60.676(b) (1)]
32. For each bag leak detection system installed and operated according to Specific Condition # 23, the owner or operator must keep the records as follows: [Regulation 19, §19.304 and 40 CFR §60.676(b) (2)]
  - a. Records of the bag leak detection system output;
  - b. Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
  - c. The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.



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33. During the initial performance test of the wet scrubber (SN-01 and SN-02) and daily thereafter, the permittee shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate. [Regulation 19, §19.304 and 40 CFR §60.676 (c)]

Note: SN-02 was tested on June 7, 2005 for initial performance test. However, the permittee must retest the SN-02 based on the confidential permit application dated August 13, 2009. SN-01 must be tested based on permit application dated September 9, 2010.

34. After the initial performance test of the wet scrubber (SN-01 and SN-02), the permittee shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow rate differ by more than  $\pm 30$  percent from the averaged determined during the most recent performance test. [Regulation 19, §19.304 and 40 CFR §60.676 (d)]
35. The reports required under Specific Condition #34 shall be postmarked within 30 days following end of the second and fourth calendar quarters. [Regulation 19, §19.304 and 40 CFR §60.676 (e)]
36. The permittee shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in Specific Condition #14, including reports of opacity observations made using Method 9 to demonstrate compliance with Specific Conditions #16 & #17, and reports of observations using Method 22 to demonstrate compliance with Specific Condition # 18. [Regulation 19, §19.304 and 40 CFR §60.676 (f)]
37. The subpart A requirement under §60.7(a)(1) for notification of the date construction or reconstruction commenced is waived for affected facilities under this subpart. [Regulation 19, §19.304 and 40 CFR §60.676(h)]
38. The permittee shall visibly designate the equipment installation date for SN-02, BE-01 (SN-01), CR-03 (SN-27), and all new sources in the resin coating process for ease of inspection and verification of Specific Condition #14. [Regulation 19, §19.304 and 40 CFR §60.672]
39. The permittee shall not exceed the content limits set forth in the following table. Compliance shall be demonstrated by maintaining monthly records of the products used. These records shall be updated by the 15<sup>th</sup> day of the month following the month to which these records pertain. These records shall be maintained on site and made available to Department personnel upon request. The methanol emissions with this source are assumed to be a percentage of the formaldehyde content which is converted and not an individual constituent of the original resin. [Regulation 18, §18.1004, Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Product	Maximum Formaldehyde Content	Maximum Phenol Content	Maximum VOC Content
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Resin	1.5% by wt.	1.5% by wt.	3.0% by wt.
Chembetaine	n/a	n/a	20.8% by wt.
Hexamethylene Tetramine	n/a	n/a	n/a

40. The permittee shall maintain Material Data Safety Sheets (MSDS) or other manufacturer documentation which demonstrates compliance with Specific Condition 39 above. The permittee shall maintain the MSDS on-site and validate that all are current once a year by January 1. This documentation shall indicate the total VOC content of each coating product along with the content, in % by weight, of each HAP compound contained in each material. If the manufacturer documentation does not indicate VOC and/or HAP content in % by weight, the permittee may calculate this value as the product of the weight percent of VOC or HAP times the density of the material in lb/gal. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
41. The permittee shall test the SN-56 site-specific individual HAP and VOC emissions using EPA Method 320 sampling procedure or other methods, if the method has been approved in advance by the Department. The initial test shall be required within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial startup. While performing the tests, the equipment shall be operating at least 90% of the maximum throughput rate. If testing is conducted at a rate lower than 90%, the facility shall be limited to an operating rate of 110% of the tested rate until compliance at a higher rate is demonstrated. The permittee shall notify the Department of the scheduled date of testing at least fifteen (15) days in advance of such test. Test results shall be submitted to the Department within thirty (30) days after the completed testing at the address in General Condition #6, maintained on-site and made available to Department personnel upon request. [Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
42. The permittee will use only pipeline quality natural gas to fuel SN-56 regenerative thermal oxidizer (RTO) at this facility. The thermal oxidizer is permitted for the theoretical maximum using a higher emission value from burning natural gas. Therefore, no recordkeeping of natural gas is required. [Regulation 19, §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
43. The permittee shall install, operate, and maintain a device to continuously monitor and record the operating temperature of the RTO (SN-56). The incinerator temperature shall be maintained at or above 1500 °F. The permittee shall only operate the Resin Coating/Mixing operation (BM-105, BM-205, CM-107, CM-207) while the RTO (SN-56) is fully operational. If in the event that the RTO becomes inoperative during a mixing batch, the facility shall account for any uncontrolled emissions towards the 12 month rolling total. These records shall be maintained on site and be made available to Department personnel upon request. [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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44. The permittee shall not operate the emergency generator (SN-58) more than 500 hours in any consecutive twelve month period. [Regulation 19, §19.705, A.C.A §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
45. The permittee shall maintain records which demonstrate compliance with the limit set in Specific Condition # 44. These records shall be updated on a monthly basis, shall be kept on location, and shall be provided to Department personnel upon request. An annual total and each individual month's data shall be submitted in accordance with General Condition # 6. [Regulation 19, §19.705 and 40 CFR Part 52 Subpart E]
46. Emergency Generator SN-58 must meet the requirements of 40 CFR Part 63, Subpart ZZZZ - *National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* by meeting the requirements of 40 CFR part 60 subpart JJJJ for spark ignition engines. No further requirements apply for such engines under this subpart. [40 CFR 63.6590(c)(1)]
47. The emergency generator engine SN-58 will be subject to and shall comply with the provisions of 40 CFR part 60, Subpart JJJJ – *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*. [Regulation 19, §19.304 and 40 CFR §60.4230(a)(4)(iv)]
48. The emergency generator engine SN-58 must meet the following emission standards: NO<sub>x</sub> - 2.0 g/HP-hr, CO – 4.0 g/HP-hr, and VOC – 1.0 g/HP-hr. [Regulation 19, §19.304 and 40 CFR §60.4233(e)]
49. The permittee must operate and maintain Stationary Spark Ignition (SI) Internal Combustion Engines (ICE) that achieve the emission standards as required in §60.4233 over the entire life of the engine. [Regulation 19, §19.304 and 40 CFR §60.4234].
50. The permittee must purchase an engine certified to the emission standards in §60.4231(e) for the same engine class and maximum engine power (Engine Family BPWRB21.9NGP). The permittee must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply. If the engine settings are adjusted according to and consistent with the manufacturer's instructions, the stationary SI internal combustion engine will not be considered out of compliance. In addition, the following requirements must be met:
  1. If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, records must be kept of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. [Regulation 19, §19.304 and 40 CFR §60.4243 (a) (1), (b) (1)].
51. The permittee must meet the following notification, reporting and recordkeeping requirements.
  - a. All notifications submitted to comply with this subpart and all documentation supporting any notification.
  - b. Maintenance conducted on the engine.

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- c. If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1060, and 1054 as applicable.
- d. If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards. [Regulation 19, §19.304 and 40 CFR §60.4245 (a) (1-4)].

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Section V: INSIGNIFICANT ACTIVITIES

The Department deems the following types of activities or emissions as insignificant on the basis of size, emission rate, production rate, or activity in accordance with Group A of the Insignificant Activities list found in Regulation 18 and 19 Appendix A. Insignificant activity emission determinations rely upon the information submitted by the permittee in an application dated March 26, 2004.

Description	Category
Four (4) Reddy fuel burning heaters < 1.0 MMBtu/hr	A-1
T-412 Chembetaine Tank – 700 gallons	A-3
T-413 Silicone Tank – 700 gallons	A-3
Tank TA-01 (Diesel), 15,000 gallon capacity distillate fuel oil No. 2 storage tank. The predicted emissions of < 0.01 tpy VOCs, at 60,000 gal/yr throughput, are well below 5 tpy of VOC and 1 tpy of any HAP.	A-13
Tank TA-02 (Gasoline), 2,000 gallon capacity gasoline storage tank. The predicted emissions of 0.32 tpy VOCs, at 12,000 gal/yr throughput, are well below 5 tpy of VOC and 1 tpy of any HAP.	A-13
T-404 Hexamethylene Tetramine Feed Tank – 11,850 gallons	A-13
T-636 Process Water Tank – 11,850 gallons	A-13

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## Section VI: GENERAL CONDITIONS

1. Any terms or conditions included in this permit that specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.). Any terms or conditions included in this permit that specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute.
2. This permit does not relieve the owner or operator of the equipment and/or the facility from compliance with all applicable provisions of the Arkansas Water and Air Pollution Control Act and the regulations promulgated under the Act. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
3. The permittee shall notify the Department in writing within thirty (30) days after commencement of construction, completion of construction, first operation of equipment and/or facility, and first attainment of the equipment and/or facility target production rate. [Regulation 19 §19.704 and/or A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
4. Construction or modification must commence within eighteen (18) months from the date of permit issuance. [Regulation 19 §19.410(B) and/or Regulation 18 §18.309(B) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
5. The permittee must keep records for five years to enable the Department to determine compliance with the terms of this permit such as hours of operation, throughput, upset conditions, and continuous monitoring data. The Department may use the records, at the discretion of the Department, to determine compliance with the conditions of the permit. [Regulation 19 §19.705 and/or Regulation 18 §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
6. A responsible official must certify any reports required by any condition contained in this permit and submit any reports to the Department at the address below. [Regulation 19 §19.705 and/or Regulation 18 §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Arkansas Department of Environmental Quality  
Air Division  
ATTN: Compliance Inspector Supervisor

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5301 Northshore Drive  
North Little Rock, AR 72118-5317

7. The permittee shall test any equipment scheduled for testing, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) newly constructed or modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) existing equipment already operating according to the time frames set forth by the Department. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) business days in advance of such test. The permittee must submit compliance test results to the Department within thirty (30) calendar days after the completion of testing. [Regulation 19 §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
8. The permittee shall provide: [Regulation 19 §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
  - a. Sampling ports adequate for applicable test methods;
  - b. Safe sampling platforms;
  - c. Safe access to sampling platforms; and
  - d. Utilities for sampling and testing equipment
9. The permittee shall operate equipment, control apparatus and emission monitoring equipment within their design limitations. The permittee shall maintain in good condition at all times equipment, control apparatus and emission monitoring equipment. [Regulation 19 §19.303 and/or Regulation 18 §18.1104 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
10. If the permittee exceeds an emission limit established by this permit, the permittee will be deemed in violation of said permit and will be subject to enforcement action. The Department may forego enforcement action for emissions exceeding any limits established by this permit provided the following requirements are met: [Regulation 19 §19.601 and/or Regulation 18 §18.1101 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
  - a. The permittee demonstrates to the satisfaction of the Department that the emissions resulted from an equipment malfunction or upset and are not the result of negligence or improper maintenance, and the permittee took all reasonable measures to immediately minimize or eliminate the excess emissions.
  - b. The permittee reports the occurrence or upset or breakdown of equipment (by telephone, facsimile, or overnight delivery) to the Department by the end of the next business day after the occurrence or the discovery of the occurrence.
  - c. The permittee must submit to the Department, within five business days after the occurrence or the discovery of the occurrence, a full, written report of such occurrence, including a statement of all known causes and of the scheduling and

nature of the actions to be taken to minimize or eliminate future occurrences, including, but not limited to, action to reduce the frequency of occurrence of such conditions, to minimize the amount by which said limits are exceeded, and to reduce the length of time for which said limits are exceeded. If the information is included in the initial report, the information need not be submitted again.

11. The permittee shall allow representatives of the Department upon the presentation of credentials: [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
  - a. To enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of this permit;
  - b. To have access to and copy any records required to be kept under the terms and conditions of this permit, or the Act;
  - c. To inspect any monitoring equipment or monitoring method required in this permit;
  - d. To sample any emission of pollutants; and
  - e. To perform an operation and maintenance inspection of the permitted source.
12. The Department issued this permit in reliance upon the statements and presentations made in the permit application. The Department has no responsibility for the adequacy or proper functioning of the equipment or control apparatus. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
13. The Department may revoke or modify this permit when, in the judgment of the Department, such revocation or modification is necessary to comply with the applicable provisions of the Arkansas Water and Air Pollution Control Act and the regulations promulgated the Arkansas Water and Air Pollution Control Act. [Regulation 19 §19.410(A) and/or Regulation 18 §18.309(A) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
14. This permit may be transferred. An applicant for a transfer must submit a written request for transfer of the permit on a form provided by the Department and submit the disclosure statement required by Arkansas Code Annotated §8-1-106 at least thirty (30) days in advance of the proposed transfer date. The permit will be automatically transferred to the new permittee unless the Department denies the request to transfer within thirty (30) days of the receipt of the disclosure statement. The Department may deny a transfer on the basis of the information revealed in the disclosure statement or other investigation or, deliberate falsification or omission of relevant information. [Regulation 19 §19.407(B) and/or Regulation 18 §18.307(B) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
15. This permit shall be available for inspection on the premises where the control apparatus is located. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]



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16. This permit authorizes only those pollutant emitting activities addressed herein. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
17. This permit supersedes and voids all previously issued air permits for this facility. [Regulation 18 and 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
18. The permittee must pay all permit fees in accordance with the procedures established in Regulation No. 9. [A.C.A §8-1-105(c)]
19. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion in the following circumstances:
  - a. Such an extension does not violate a federal requirement;
  - b. The permittee demonstrates the need for the extension; and
  - c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.

[Regulation 18 §18.314(A), Regulation 19 §19.416(A), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

20. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Department approval. Any such emissions shall be included in the facilities total emissions and reported as such. The Department may grant such a request, at its discretion under the following conditions:
  - a. Such a request does not violate a federal requirement;
  - b. Such a request is temporary in nature;
  - c. Such a request will not result in a condition of air pollution;
  - d. The request contains such information necessary for the Department to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
  - e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
  - f. The permittee maintains records of the dates and results of such temporary emissions/testing.

[Regulation 18 §18.314(B), Regulation 19 §19.416(B), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

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21. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion under the following conditions:
  - a. The request does not violate a federal requirement;
  - b. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
  - c. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

[Regulation 18 §18.314(C), Regulation 19 §19.416(C), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

APPENDIX A

40 CFR 60 Subpart OOO  
Standards of Performance for Nonmetallic Mineral Processing Plants

## e-CFR Data is current as of April 20, 2012

### **Title 40: Protection of Environment**

#### **PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

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#### **Subpart 000—Standards of Performance for Nonmetallic Mineral Processing Plants**

**Source:** 74 FR 19309, Apr. 28, 2009, unless otherwise noted.

#### **§ 60.670 Applicability and designation of affected facility.**

(a)(1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.

(2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; plants without crushers or grinding mills above ground; and wet material processing operations (as defined in §60.671).

(b) An affected facility that is subject to the provisions of subparts F or I of this part or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.

(c) Facilities at the following plants are not subject to the provisions of this subpart:

(1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 23 megagrams per hour (25 tons per hour) or less;

(2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 136 megagrams per hour (150 tons per hour) or less; and

(3) Common clay plants and pumice plants with capacities, as defined in §60.671, of 9 megagrams per hour (10 tons per hour) or less.

(d)(1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of §§60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.

(2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in §60.676(a).

(3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§60.672, 60.674 and 60.675.

(e) An affected facility under paragraph (a) of this section that commences construction, modification, or reconstruction after August 31, 1983, is subject to the requirements of this part.

(f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that do not apply to owners and operators of affected facilities subject to this subpart or that apply with certain exceptions.

#### **§ 60.671 Definitions.**

All terms used in this subpart, but not specifically defined in this section, shall have the meaning given them in the Act and in subpart A of this part.

*Bagging operation* means the mechanical process by which bags are filled with nonmetallic minerals.

*Belt conveyor* means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

*Bucket elevator* means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

*Building* means any frame structure with a roof.

*Capacity* means the cumulative rated capacity of all initial crushers that are part of the plant.

*Capture system* means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more affected facilities to a control device.

*Control device* means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities at a nonmetallic mineral processing plant.

*Conveying system* means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems.

*Crush* or *Crushing* means to reduce the size of nonmetallic mineral material by means of physical impaction of the crusher or grinding mill upon the material.

*Crusher* means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: Jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

*Enclosed truck or railcar loading station* means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

*Fixed plant* means any nonmetallic mineral processing plant at which the processing equipment specified in §60.670(a) is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

*Fugitive emission* means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

*Grinding mill* means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: Hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

*Initial crusher* means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant.

*Nonmetallic mineral* means any of the following minerals or any mixture of which the majority is any of the following minerals:

(1) Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.

(2) Sand and Gravel.

(3) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.

(4) Rock Salt.

(5) Gypsum (natural or synthetic).

(6) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.

(7) Pumice.

(8) Gilsonite.

(9) Talc and Pyrophyllite.

(10) Boron, including Borax, Kernite, and Colemanite.

(11) Barite.

(12) Fluorospar.

(13) Feldspar.

(14) Diatomite.

(15) Perlite.

(16) Vermiculite.

(17) Mica.

(18) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

*Nonmetallic mineral processing plant* means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in §60.670 (b) and (c).

*Portable plant* means any nonmetallic mineral processing plant that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.

*Production line* means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system.

*Saturated material* means, for purposes of this subpart, mineral material with sufficient surface moisture such that particulate matter emissions are not generated from processing of the material through screening operations, bucket

elevators and belt conveyors. Material that is wetted solely by wet suppression systems is not considered to be "saturated" for purposes of this definition.

*Screening operation* means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens). Grizzly feeders associated with truck dumping and static (non-moving) grizzlies used anywhere in the nonmetallic mineral processing plant are not considered to be screening operations.

*Seasonal shut down* means shut down of an affected facility for a period of at least 45 consecutive days due to weather or seasonal market conditions.

*Size* means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin.

*Stack emission* means the particulate matter that is released to the atmosphere from a capture system.

*Storage bin* means a facility for storage (including surge bins) of nonmetallic minerals prior to further processing or loading.

*Transfer point* means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

*Truck dumping* means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: Trucks, front end loaders, skip hoists, and railcars.

*Vent* means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.

*Wet material processing operation(s)* means any of the following:

(1) Wet screening operations (as defined in this section) and subsequent screening operations, bucket elevators and belt conveyors in the production line that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line; or

(2) Screening operations, bucket elevators and belt conveyors in the production line downstream of wet mining operations (as defined in this section) that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line.

*Wet mining operation* means a mining or dredging operation designed and operated to extract any nonmetallic mineral regulated under this subpart from deposits existing at or below the water table, where the nonmetallic mineral is saturated with water.

*Wet screening operation* means a screening operation at a nonmetallic mineral processing plant which removes unwanted material or which separates marketable fines from the product by a washing process which is designed and operated at all times such that the product is saturated with water.

#### **§ 60.672 Standard for particulate matter (PM).**

(a) Affected facilities must meet the stack emission limits and compliance requirements in Table 2 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.8. The requirements in Table 2 of this subpart apply for affected facilities with capture systems used to capture and transport particulate matter to a control device.

(b) Affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11. The requirements in Table 3 of this subpart apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.

(c) [Reserved]

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

(e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a) and (b) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:

(1) Fugitive emissions from the building openings (except for vents as defined in §60.671) must not exceed 7 percent opacity; and

(2) Vents (as defined in §60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of this subpart.

(f) Any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of this subpart but must meet the applicable stack opacity limit and compliance requirements in Table 2 of this subpart. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

#### **§ 60.673 Reconstruction.**

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under §60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.

(b) Under §60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

#### **§ 60.674 Monitoring of operations.**

(a) The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain and operate the following monitoring devices:

(1) A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 250$  pascals  $\pm 1$  inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(2) A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 5$  percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(b) The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control emissions from the affected facility must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expeditiously as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under §60.676(b).



(1) If an affected facility relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of this subpart provided that the affected facility meets the criteria in paragraphs (b)(1)(i) and (ii) of this section:

(i) The owner or operator of the affected facility conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to paragraph (b) of this section and §60.676(b), and

(ii) The owner or operator of the affected facility designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under §60.11 of this part and §60.675 of this subpart.

(2) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under §60.676(b) must specify the control mechanism being used instead of the water sprays.

(c) Except as specified in paragraph (d) or (e) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A-7). The Method 22 (40 CFR part 60, Appendix A-7) 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 or operator must record each Method 22 (40 CFR part 60, Appendix A-7) test, including the date and any corrective actions taken, in the logbook required under §60.676(b). The owner or operator of the affected facility may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to §60.675(b) simultaneously with a Method 22 (40 CFR part 60, Appendix A-7) to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Table 2 of this subpart. The revised visible emissions success level must be incorporated into the permit for the affected facility.

(d) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions may use a bag leak detection system. The owner or operator must install, operate, and maintain the bag leak detection system according to paragraphs (d)(1) through (3) of this section.

(1) Each bag leak detection system must meet the specifications and requirements in paragraphs (d)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means ( e.g. , using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (d)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (d)(1)(vi) of this section.

(vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (d)(2) of this section.

(vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) The owner or operator of the affected facility must develop and submit to the Administrator or delegated authority for approval of a site-specific monitoring plan for each bag leak detection system. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (d)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (d)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (d)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

(e) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility that is subject to the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) may follow the continuous compliance requirements in row 1 items (i) through (iii) of Table 6 to Subpart AAAAA of 40 CFR part 63.

**§ 60.675 Test methods and procedures.**

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendices A–1 through A–7 of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.

(b) The owner or operator shall determine compliance with the PM standards in §60.672(a) as follows:

(1) Except as specified in paragraphs (e)(3) and (4) of this section, Method 5 of Appendix A–3 of this part or Method 17 of Appendix A–6 of this part shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5 (40 CFR part 60, Appendix A–3), if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.

(2) Method 9 of Appendix A–4 of this part and the procedures in §60.11 shall be used to determine opacity.

(c)(1) In determining compliance with the particulate matter standards in §60.672(b) or §60.672(e)(1), the owner or operator shall use Method 9 of Appendix A–4 of this part and the procedures in §60.11, with the following additions:

(i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources ( e.g., road dust). The required observer position relative to the sun (Method 9 of Appendix A–4 of this part, Section 2.1) must be followed.

(iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(2)(i) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under §60.672(f) of this subpart, using Method 9 (40 CFR part 60, Appendix A–4), the duration of the Method 9 (40 CFR part 60, Appendix A–4) observations shall be 1 hour (ten 6-minute averages).

(ii) The duration of the Method 9 (40 CFR part 60, Appendix A–4) observations may be reduced to the duration the affected facility operates (but not less than 30 minutes) for baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time.

(3) When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b) or §60.672(e)(1) of this subpart, the duration of the Method 9 (40 CFR part 60, Appendix A–4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of this subpart must be based on the average of the five 6-minute averages.

(d) To demonstrate compliance with the fugitive emission limits for buildings specified in §60.672(e)(1), the owner or operator must complete the testing specified in paragraph (d)(1) and (2) of this section. Performance tests must be conducted while all affected facilities inside the building are operating.

(1) If the building encloses any affected facility that commences construction, modification, or reconstruction on or after April 22, 2008, the owner or operator of the affected facility must conduct an initial Method 9 (40 CFR part 60, Appendix A–4) performance test according to this section and §60.11.

(2) If the building encloses only affected facilities that commenced construction, modification, or reconstruction before April 22, 2008, and the owner or operator has previously conducted an initial Method 22 (40 CFR part 60, Appendix A–7) performance test showing zero visible emissions, then the owner or operator has demonstrated compliance with

the opacity limit in §60.672(e)(1). If the owner or operator has not conducted an initial performance test for the building before April 22, 2008, then the owner or operator must conduct an initial Method 9 (40 CFR part 60, Appendix A-4) performance test according to this section and §60.11 to show compliance with the opacity limit in §60.672(e)(1).

(e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For the method and procedure of paragraph (c) of this section, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:

(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.

(2) A single visible emission observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions are met:

(i) No more than three emission points may be read concurrently.

(ii) All three emission points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.

(iii) If an opacity reading for any one of the three emission points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two points and continue reading just that single point.

(3) Method 5I of Appendix A-3 of this part may be used to determine the PM concentration as an alternative to the methods specified in paragraph (b)(1) of this section. Method 5I (40 CFR part 60, Appendix A-3) may be useful for affected facilities that operate for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations.

(4) In some cases, velocities of exhaust gases from building vents may be too low to measure accurately with the type S pitot tube specified in EPA Method 2 of Appendix A-1 of this part [*i.e.*, velocity head <1.3 mm H<sub>2</sub>O (0.05 in. H<sub>2</sub>O)] and referred to in EPA Method 5 of Appendix A-3 of this part. For these conditions, the owner or operator may determine the average gas flow rate produced by the power fans (*e.g.*, from vendor-supplied fan curves) to the building vent. The owner or operator may calculate the average gas velocity at the building vent measurement site using Equation 1 of this section and use this average velocity in determining and maintaining isokinetic sampling rates.

$$v_e = \frac{Q_f}{A_e} \quad (\text{Eq 1})$$

Where:

V<sub>e</sub>= average building vent velocity (feet per minute);

Q<sub>f</sub>= average fan flow rate (cubic feet per minute); and

A<sub>e</sub>= area of building vent and measurement location (square feet).

(f) To comply with §60.676(d), the owner or operator shall record the measurements as required in §60.676(c) using the monitoring devices in §60.674 (a)(1) and (2) during each particulate matter run and shall determine the averages.

(g) For performance tests involving only Method 9 (40 CFR part 60 Appendix A-4) testing, the owner or operator may reduce the 30-day advance notification of performance test in §60.7(a)(6) and 60.8(d) to a 7-day advance notification.

(h) [Reserved]

(i) If the initial performance test date for an affected facility falls during a seasonal shut down (as defined in §60.671 of this subpart) of the affected facility, then with approval from the permitting authority, the owner or operator may postpone the initial performance test until no later than 60 calendar days after resuming operation of the affected facility.

#### **§ 60.676 Reporting and recordkeeping.**

(a) Each owner or operator seeking to comply with §60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.

(1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:

(i) The rated capacity in megagrams or tons per hour of the existing facility being replaced and

(ii) The rated capacity in tons per hour of the replacement equipment.

(2) For a screening operation:

(i) The total surface area of the top screen of the existing screening operation being replaced and

(ii) The total surface area of the top screen of the replacement screening operation.

(3) For a conveyor belt:

(i) The width of the existing belt being replaced and

(ii) The width of the replacement conveyor belt.

(4) For a storage bin:

(i) The rated capacity in megagrams or tons of the existing storage bin being replaced and

(ii) The rated capacity in megagrams or tons of replacement storage bins.

(b)(1) Owners or operators of affected facilities (as defined in §§60.670 and 60.671) for which construction, modification, or reconstruction commenced on or after April 22, 2008, must record each periodic inspection required under §60.674(b) or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request.

(2) For each bag leak detection system installed and operated according to §60.674(d), the owner or operator must keep the records specified in paragraphs (b)(2)(i) through (iii) of this section.

(i) Records of the bag leak detection system output;

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and

(iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

(3) The owner or operator of each affected facility demonstrating compliance according to §60.674(e) by following the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) must maintain records of visible emissions observations required by §63.7132(a)(3) and (b) of 40 CFR part 63, subpart AAAAA.

(c) During the initial performance test of a wet scrubber, and daily thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.

(d) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss and liquid flow rate decrease by more than 30 percent from the average determined during the most recent performance test.

(e) The reports required under paragraph (d) of this section shall be postmarked within 30 days following end of the second and fourth calendar quarters.

(f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672 of this subpart, including reports of opacity observations made using Method 9 (40 CFR part 60, Appendix A-4) to demonstrate compliance with §60.672(b), (e) and (f).

(g) The owner or operator of any wet material processing operation that processes saturated and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. At the time of such change, this screening operation, bucket elevator, or belt conveyor becomes subject to the applicable opacity limit in §60.672(b) and the emission test requirements of §60.11.

(h) The subpart A requirement under §60.7(a)(1) for notification of the date construction or reconstruction commenced is waived for affected facilities under this subpart.

(i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.

(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

(2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.

(j) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.

(k) Notifications and reports required under this subpart and under subpart A of this part to demonstrate compliance with this subpart need only to be sent to the EPA Region or the State which has been delegated authority according to §60.4(b).

#### **Table 1 to Subpart OOO of Part 60—Exceptions to Applicability of Subpart A to Subpart OOO**

#### **Table 1 to Subpart OOO—Exceptions to Applicability of Subpart A to Subpart OOO**

Subpart A reference	Applies to subpart OOO	Explanation
60.4, Address	Yes	Except in §60.4(a) and (b) submittals need not be submitted to both the EPA Region and delegated State authority (§60.676(k)).
60.7, Notification and recordkeeping	Yes	Except in (a)(1) notification of the date construction or reconstruction commenced (§60.676(h)).
		Also, except in (a)(6) performance tests involving only Method 9 (40 CFR part 60, Appendix A-4) require a 7-day advance notification instead of 30 days (§60.675(g)).
60.8, Performance tests	Yes	Except in (d) performance tests involving only Method 9 (40 CFR part 60, Appendix A-4) require a 7-day advance notification instead of 30 days (§60.675(g)).
60.11, Compliance with standards and maintenance requirements	Yes	Except in (b) under certain conditions (§§60.675(c)), Method 9 (40 CFR part 60, Appendix A-4) observation is reduced from 3 hours to 30 minutes for fugitive emissions.
60.18, General control device	No	Flares will not be used to comply with the emission limits.

**Table 2 to Subpart OOO of Part 60—Stack Emission Limits for Affected Facilities With Capture Systems**

**Table 2 to Subpart OOO—Stack Emission Limits for Affected Facilities With Capture Systems**

For * * *	The owner or operator must meet a PM limit of * * *	And the owner or operator must meet an opacity limit of * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in §§60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008	0.05 g/dscm (0.022 gr/dscf) <sup>a</sup>	7 percent for dry control devices <sup>b</sup>	An initial performance test according to §60.8 of this part and §60.675 of this subpart; and Monitoring of wet scrubber parameters according to §60.674(a) and §60.676(c), (d), and (e).
Affected facilities (as defined in	0.032 g/dscm	Not applicable	An initial performance test

§§60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	(0.014 gr/dscf) <sup>a</sup>	(except for individual enclosed storage bins) 7 percent for dry control devices on individual enclosed storage bins	according to §60.8 of this part and §60.675 of this subpart; and Monitoring of wet scrubber parameters according to §60.674(a) and §60.676(c), (d), and (e); and
			Monitoring of baghouses according to §60.674(c), (d), or (e) and §60.676(b).

<sup>a</sup>Exceptions to the PM limit apply for individual enclosed storage bins and other equipment. See §60.672(d) through (f).

<sup>b</sup>The stack opacity limit and associated opacity testing requirements do not apply for affected facilities using wet scrubbers.

**Table 3 to Subpart OOO of Part 60—Fugitive Emission Limits**

**Table 3 to Subpart OOO—Fugitive Emission Limits**

<b>For * * *</b>	<b>The owner or operator must meet the following fugitive emissions limit for 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 (as defined in §§60.670 and 60.671) * * *</b>	<b>The owner or operator must meet the following fugitive emissions limit for crushers at which a capture system is not used * * *</b>	<b>The owner or operator must demonstrate compliance with these limits by conducting * * *</b>
Affected facilities (as defined in §§60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but	10 percent opacity	15 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart.



before April 22, 2008			
Affected facilities (as defined in §§60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	7 percent opacity	12 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart; and Periodic inspections of water sprays according to §60.674(b) and §60.676(b); and
			A repeat performance test according to §60.11 of this part and §60.675 of this subpart within 5 years from the previous performance test for fugitive emissions from affected facilities without water sprays. Affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in §60.674(b) and §60.676(b) are exempt from this 5-year repeat testing requirement.

APPENDIX B

40 CFR 60, Subpart JJJJ

Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.



## e-CFR Data is current as of April 20, 2012

### **Title 40: Protection of Environment**

#### **PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

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### **Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines**

**Source:** 73 FR 3591, Jan. 18, 2008, unless otherwise noted.

#### **What This Subpart Covers**

##### **§ 60.4230 Am I subject to this subpart?**

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (6) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary SI ICE with a maximum engine power less than or equal to 19 kilowatt (KW) (25 horsepower (HP)) that are manufactured on or after July 1, 2008.

(2) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline fueled or that are rich burn engines fueled by liquefied petroleum gas (LPG), where the date of manufacture is:

(i) On or after July 1, 2008; or

(ii) On or after January 1, 2009, for emergency engines.

(3) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are not gasoline fueled and are not rich burn engines fueled by LPG, where the manufacturer participates in the voluntary manufacturer certification program described in this subpart and where the date of manufacture is:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) On or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) On or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) On or after January 1, 2009, for emergency engines.

(4) Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

- (iii) on or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or
- (iv) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).
- (5) Owners and operators of stationary SI ICE that are modified or reconstructed after June 12, 2006, and any person that modifies or reconstructs any stationary SI ICE after June 12, 2006.
- (6) The provisions of §60.4236 of this subpart are applicable to all owners and operators of stationary SI ICE that commence construction after June 12, 2006.
- (b) The provisions of this subpart are not applicable to stationary SI ICE being tested at an engine test cell/stand.
- (c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.
- (d) For the purposes of this subpart, stationary SI ICE using alcohol-based fuels are considered gasoline engines.
- (e) Stationary SI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR parts 90 and 1048, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.
- (f) Owners and operators of facilities with internal combustion engines that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[73 FR 3591, Jan. 18, 2008, as amended at 76 FR 37972, June 28, 2011]

**Emission Standards for Manufacturers**

**§ 60.4231 What emission standards must I meet if I am a manufacturer of stationary SI internal combustion engines or equipment containing such engines?**

(a) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008 to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as follows:

If engine displacement is * * *	and manufacturing dates are * * *	the engine must meet emission standards and related requirements for nonhandheld engines under * * *
(1) below 225 cc	July 1, 2008 to December 31, 2011	40 CFR part 90.
(2) below 225 cc	January 1, 2012 or later	40 CFR part 1054.
(3) at or above 225 cc	July 1, 2008 to December 31, 2010	40 CFR part 90.
(4) at or above 225 cc	January 1, 2011 or later	40 CFR part 1054.

(b) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that use gasoline and that are manufactured on or after the applicable date in §60.4230(a)(2), or manufactured on or after the applicable date in §60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE with a maximum engine power greater than 25 HP and less than 130 HP that are manufactured on or after the applicable date in §60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cubic centimeters (cc) to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate.

(c) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that are rich burn engines that use LPG and that are manufactured on or after the applicable date in §60.4230(a)(2), or manufactured on or after the applicable date in §60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE with a maximum engine power greater than 25 HP and less than 130 HP that are manufactured on or after the applicable date in §60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate.

(d) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) under the voluntary manufacturer certification program described in this subpart must certify those engines to the certification emission standards for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers who choose to certify their emergency stationary SI ICE greater than 25 HP and less than 130 HP, must certify those engines to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate. For stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) manufactured prior to January 1, 2011, manufacturers may choose to certify these engines to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP.

(e) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) under the voluntary manufacturer certification program described in this subpart must certify those engines to the emission standards in Table 1 to this subpart. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) that are lean burn engines that use LPG to the certification emission standards for new nonroad SI engines in 40 CFR part 1048. For stationary SI ICE with a maximum engine power greater than or equal to 100 HP (75 KW) and less than 500 HP (373 KW) manufactured prior to January 1, 2011, and for stationary SI ICE with a maximum engine power greater than or equal to 500 HP (373 KW) manufactured prior to July 1, 2010, manufacturers may choose to certify these engines to the certification emission standards for new nonroad SI engines in 40 CFR part 1048 applicable to engines that are not severe duty engines.

(f) Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, to the extent they apply to equipment manufacturers.

(g) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary SI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (e) of this section that are applicable to the model year, maximum engine power and displacement of the reconstructed stationary SI ICE.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59175, Oct. 8, 2008; 76 FR 37973, June 28, 2011]

**§ 60.4232 How long must my engines meet the emission standards if I am a manufacturer of stationary SI internal combustion engines?**

Engines manufactured by stationary SI internal combustion engine manufacturers must meet the emission standards as required in §60.4231 during the certified emissions life of the engines.

**Emission Standards for Owners and Operators**

**§ 60.4233 What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?**

(a) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008, must comply with the emission standards in §60.4231(a) for their stationary SI ICE.

(b) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in §60.4230(a)(4) that use gasoline must comply with the emission standards in §60.4231(b) for their stationary SI ICE.

(c) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in §60.4230(a)(4) that are rich burn engines that use LPG must comply with the emission standards in §60.4231(c) for their stationary SI ICE.

(d) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards for field testing in 40 CFR 1048.101(c) for their non-emergency stationary SI ICE and with the emission standards in Table 1 to this subpart for their emergency stationary SI ICE. Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) manufactured prior to January 1, 2011, that were certified to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP, may optionally choose to meet those standards.

(e) Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to this subpart, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified.

(f) Owners and operators of any modified or reconstructed stationary SI ICE subject to this subpart must meet the requirements as specified in paragraphs (f)(1) through (5) of this section.

(1) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with emission standards in §60.4231(a) for their stationary SI ICE. Engines with a date of manufacture prior to July 1, 2008 must comply with the emission standards specified in §60.4231(a) applicable to engines manufactured on July 1, 2008.

(2) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline engines and are modified or reconstructed after June 12, 2006, must comply with the emission standards in §60.4231(b) for their stationary SI ICE. Engines with a date of manufacture prior to July 1, 2008 (or January 1, 2009 for emergency engines) must comply with the emission standards specified in §60.4231(b) applicable to engines manufactured on July 1, 2008 (or January 1, 2009 for emergency engines).

(3) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are rich burn engines that use LPG, that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in §60.4231(c). Engines with a date of manufacture prior to July 1, 2008 (or January 1, 2009 for emergency engines) must comply with the emission standards specified in §60.4231(c) applicable to engines manufactured on July 1, 2008 (or January 1, 2009 for emergency engines).

(4) Owners and operators of stationary SI natural gas and lean burn LPG engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (d) or (e) of this section, except that such owners and operators of non-emergency engines and emergency engines greater than or equal to 130 HP must meet a nitrogen oxides (NO<sub>x</sub>) emission standard of 3.0 grams per HP-hour (g/HP-hr), a CO emission standard of 4.0 g/HP-hr (5.0 g/HP-hr for non-emergency engines less than 100 HP), and a volatile organic compounds (VOC) emission standard of 1.0 g/HP-hr, or a NO<sub>x</sub> emission standard of 250 ppmvd at 15 percent oxygen (O<sub>2</sub>), a CO emission standard 540 ppmvd at 15 percent O<sub>2</sub> (675 ppmvd at 15 percent O<sub>2</sub> for non-emergency engines less than 100 HP), and a VOC emission standard of 86 ppmvd at 15 percent O<sub>2</sub>, where the date of manufacture of the engine is:

(i) Prior to July 1, 2007, for non-emergency engines with a maximum engine power greater than or equal to 500 HP (except lean burn natural gas engines and LPG engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) Prior to July 1, 2008, for non-emergency engines with a maximum engine power less than 500 HP;

(iii) Prior to January 1, 2009, for emergency engines;

(iv) Prior to January 1, 2008, for non-emergency lean burn natural gas engines and LPG engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP.

(5) Owners and operators of stationary SI landfill/digester gas ICE engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (e) of this section for stationary landfill/digester gas engines. Engines with maximum engine power less than 500 HP and a date of manufacture prior to July 1, 2008 must comply with the emission standards specified in paragraph (e) of this section for stationary landfill/digester gas ICE with a maximum engine power less than 500 HP manufactured on July 1, 2008. Engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines greater than or equal to 500 HP and less than 1,350 HP) and a date of manufacture prior to July 1, 2007 must comply with the emission standards specified in paragraph (e) of this section for stationary landfill/digester gas ICE with a maximum engine power greater than or equal to 500 HP (except lean burn engines greater than or equal to 500 HP and less than 1,350 HP) manufactured on July 1, 2007. Lean burn engines greater than or equal to 500 HP and less than 1,350 HP with a date of manufacture prior to January 1, 2008 must comply with the emission standards specified in paragraph (e) of this section for stationary landfill/digester gas ICE that are lean burn engines greater than or equal to 500 HP and less than 1,350 HP and manufactured on January 1, 2008.

(g) Owners and operators of stationary SI wellhead gas ICE engines may petition the Administrator for approval on a case-by-case basis to meet emission standards no less stringent than the emission standards that apply to stationary emergency SI engines greater than 25 HP and less than 130 HP due to the presence of high sulfur levels in the fuel, as specified in Table 1 to this subpart. The request must, at a minimum, demonstrate that the fuel has high sulfur levels that prevent the use of aftertreatment controls and also that the owner has reasonably made all attempts possible to obtain an engine that will meet the standards without the use of aftertreatment controls. The petition must request the most stringent standards reasonably applicable to the engine using the fuel.

(h) Owners and operators of stationary SI ICE that are required to meet standards that reference 40 CFR 1048.101 must, if testing their engines in use, meet the standards in that section applicable to field testing, except as indicated in paragraph (e) of this section.



[73 FR 3591, Jan. 18, 2008, as amended at 76 FR 37973, June 28, 2011]

**§ 60.4234 How long must I meet the emission standards if I am an owner or operator of a stationary SI internal combustion engine?**

Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine.

**Other Requirements for Owners and Operators**

**§ 60.4235 What fuel requirements must I meet if I am an owner or operator of a stationary SI gasoline fired internal combustion engine subject to this subpart?**

Owners and operators of stationary SI ICE subject to this subpart that use gasoline must use gasoline that meets the per gallon sulfur limit in 40 CFR 80.195.

**§ 60.4236 What is the deadline for importing or installing stationary SI ICE produced in previous model years?**

(a) After July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 HP that do not meet the applicable requirements in §60.4233.

(b) After July 1, 2009, owners and operators may not install stationary SI ICE with a maximum engine power of greater than or equal to 500 HP that do not meet the applicable requirements in §60.4233, except that lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP that do not meet the applicable requirements in §60.4233 may not be installed after January 1, 2010.

(c) For emergency stationary SI ICE with a maximum engine power of greater than 19 KW (25 HP), owners and operators may not install engines that do not meet the applicable requirements in §60.4233 after January 1, 2011.

(d) In addition to the requirements specified in §§60.4231 and 60.4233, it is prohibited to import stationary SI ICE less than or equal to 19 KW (25 HP), stationary rich burn LPG SI ICE, and stationary gasoline SI ICE that do not meet the applicable requirements specified in paragraphs (a), (b), and (c) of this section, after the date specified in paragraph (a), (b), and (c) of this section.

(e) The requirements of this section do not apply to owners and operators of stationary SI ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location.

**§ 60.4237 What are the monitoring requirements if I am an owner or operator of an emergency stationary SI internal combustion engine?**

(a) Starting on July 1, 2010, if the emergency stationary SI internal combustion engine that is greater than or equal to 500 HP that was built on or after July 1, 2010, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(b) Starting on January 1, 2011, if the emergency stationary SI internal combustion engine that is greater than or equal to 130 HP and less than 500 HP that was built on or after January 1, 2011, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(c) If you are an owner or operator of an emergency stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter upon startup of your emergency engine.

**Compliance Requirements for Manufacturers**

**§ 60.4238 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines ≤19 KW (25 HP) or a manufacturer of equipment containing such engines?**

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in §60.4231(a) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

**§ 60.4239 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines >19 KW (25 HP) that use gasoline or a manufacturer of equipment containing such engines?**

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in §60.4231(b) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of stationary SI emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

**§ 60.4240 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines >19 KW (25 HP) that are rich burn engines that use LPG or a manufacturer of equipment containing such engines?**

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in §60.4231(c) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of stationary SI emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

**§ 60.4241 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines participating in the voluntary certification program or a manufacturer of equipment containing such engines?**

(a) Manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to certify their engines to the emission standards in §60.4231(d) or (e), as applicable, under the voluntary certification program described in this

subpart. Manufacturers who certify their engines under the voluntary certification program must meet the requirements as specified in paragraphs (b) through (g) of this section. In addition, manufacturers of stationary SI internal combustion engines who choose to certify their engines under the voluntary certification program, must also meet the requirements as specified in §60.4247.

(b) Manufacturers of engines other than those certified to standards in 40 CFR part 90 or 40 CFR part 1054 must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must follow the same test procedures that apply to large SI nonroad engines under 40 CFR part 1048, but must use the D-1 cycle of International Organization of Standardization 8178-4: 1996(E) (incorporated by reference, see 40 CFR 60.17) or the test cycle requirements specified in Table 3 to 40 CFR 1048.505, except that Table 3 of 40 CFR 1048.505 applies to high load engines only. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

(c) Certification of stationary SI ICE to the emission standards specified in §60.4231(d) or (e), as applicable, is voluntary, but manufacturers who decide to certify are subject to all of the requirements indicated in this subpart with regard to the engines included in their certification. Manufacturers must clearly label their stationary SI engines as certified or non-certified engines.

(d) Manufacturers of natural gas fired stationary SI ICE who conduct voluntary certification of stationary SI ICE to the emission standards specified in §60.4231(d) or (e), as applicable, must certify their engines for operation using fuel that meets the definition of pipeline-quality natural gas. The fuel used for certifying stationary SI natural gas engines must meet the definition of pipeline-quality natural gas as described in §60.4248. In addition, the manufacturer must provide information to the owner and operator of the certified stationary SI engine including the specifications of the pipeline-quality natural gas to which the engine is certified and what adjustments the owner or operator must make to the engine when installed in the field to ensure compliance with the emission standards.

(e) Manufacturers of stationary SI ICE that are lean burn engines fueled by LPG who conduct voluntary certification of stationary SI ICE to the emission standards specified in §60.4231(d) or (e), as applicable, must certify their engines for operation using fuel that meets the specifications in 40 CFR 1065.720.

(f) Manufacturers may certify their engines for operation using gaseous fuels in addition to pipeline-quality natural gas; however, the manufacturer must specify the properties of that fuel and provide testing information showing that the engine will meet the emission standards specified in §60.4231(d) or (e), as applicable, when operating on that fuel. The manufacturer must also provide instructions for configuring the stationary engine to meet the emission standards on fuels that do not meet the pipeline-quality natural gas definition. The manufacturer must also provide information to the owner and operator of the certified stationary SI engine regarding the configuration that is most conducive to reduced emissions where the engine will be operated on gaseous fuels with different quality than the fuel that it was certified to.

(g) A stationary SI engine manufacturer may certify an engine family solely to the standards applicable to landfill/digester gas engines as specified in §60.4231(d) or (e), as applicable, but must certify their engines for operation using landfill/digester gas and must add a permanent label stating that the engine is for use only in landfill/digester gas applications. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(h) For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

(i) For engines being certified to the voluntary certification standards in Table 1 of this subpart, the VOC measurement shall be made by following the procedures in 40 CFR 1065.260 and 1065.265 in order to determine the total NMHC emissions by using a flame-ionization detector and non-methane cutter. As an alternative to the

nonmethane cutter, manufacturers may use a gas chromatograph as allowed under 40 CFR 1065.267 and may measure ethane, as well as methane, for excluding such levels from the total VOC measurement.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59176, Oct. 8, 2008; 76 FR 37974, June 28, 2011]

**§ 60.4242 What other requirements must I meet if I am a manufacturer of stationary SI internal combustion engines or equipment containing stationary SI internal combustion engines or a manufacturer of equipment containing such engines?**

(a) Stationary SI internal combustion engine manufacturers must meet the provisions of 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054, as applicable, as well as 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1048 or 1054, except that engines certified pursuant to the voluntary certification procedures in §60.4241 are subject only to the provisions indicated in §60.4247 and are permitted to provide instructions to owners and operators allowing for deviations from certified configurations, if such deviations are consistent with the provisions of paragraphs §60.4241(c) through (f). Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, as applicable. Labels on engines certified to 40 CFR part 1048 must refer to stationary engines, rather than or in addition to nonroad engines, as appropriate.

(b) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054 for that model year may certify any such family that contains both nonroad and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts. This provision also applies to equipment or component manufacturers certifying to standards under 40 CFR part 1060.

(c) Manufacturers of engine families certified to 40 CFR part 1048 may meet the labeling requirements referred to in paragraph (a) of this section for stationary SI ICE by either adding a separate label containing the information required in paragraph (a) of this section or by adding the words "and stationary" after the word "nonroad" to the label.

(d) For all engines manufactured on or after January 1, 2011, and for all engines with a maximum engine power greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, a stationary SI engine manufacturer that certifies an engine family solely to the standards applicable to emergency engines must add a permanent label stating that the engines in that family are for emergency use only. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(e) All stationary SI engines subject to mandatory certification that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230. Stationary SI engines subject to standards in 40 CFR part 90 may use the provisions in 40 CFR 90.909. Manufacturers of stationary engines with a maximum engine power greater than 25 HP that are not certified to standards and other requirements under 40 CFR part 1048 are subject to the labeling provisions of 40 CFR 1048.20 pertaining to excluded stationary engines.

(f) For manufacturers of gaseous-fueled stationary engines required to meet the warranty provisions in 40 CFR 90.1103 or 1054.120, we may establish an hour-based warranty period equal to at least the certified emissions life of the engines (in engine operating hours) if we determine that these engines are likely to operate for a number of hours greater than the applicable useful life within 24 months. We will not approve an alternate warranty under this paragraph (f) for nonroad engines. An alternate warranty period approved under this paragraph (f) will be the specified number of engine operating hours or two years, whichever comes first. The engine manufacturer shall request this alternate warranty period in its application for certification or in an earlier submission. We may approve an alternate warranty period for an engine family subject to the following conditions:

(1) The engines must be equipped with non-resettable hour meters.

(2) The engines must be designed to operate for a number of hours substantially greater than the applicable certified emissions life.

(3) The emission-related warranty for the engines may not be shorter than any published warranty offered by the manufacturer without charge for the engines. Similarly, the emission-related warranty for any component shall not be shorter than any published warranty offered by the manufacturer without charge for that component.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

## **Compliance Requirements for Owners and Operators**

### **§ 60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?**

(a) If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in §60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in §60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. In addition, you must meet one of the requirements specified in (a)(1) and (2) of this section.

(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.

(2) If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to (a)(2)(i) through (iii) of this section, as appropriate.

(i) If you are an owner or operator of a stationary SI internal combustion engine less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions, but no performance testing is required if you are an owner or operator.

(ii) If you are an owner or operator of a stationary SI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup to demonstrate compliance.

(iii) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

(b) If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.

(1) Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section.

(2) Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of this section.

(i) If you are an owner or operator of a stationary SI internal combustion engine greater than 25 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance.

(ii) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

(c) If you are an owner or operator of a stationary SI internal combustion engine that must comply with the emission standards specified in §60.4233(f), you must demonstrate compliance according paragraph (b)(2)(i) or (ii) of this section, except that if you comply according to paragraph (b)(2)(i) of this section, you demonstrate that your non-certified engine complies with the emission standards specified in §60.4233(f).

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

(e) Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of §60.4233.

(f) If you are an owner or operator of a stationary SI internal combustion engine that is less than or equal to 500 HP and you purchase a non-certified engine or you do not operate and maintain your certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the stationary engine is rebuilt or undergoes major repair or maintenance. A rebuilt stationary SI ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(g) It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

(h) If you are an owner/operator of an stationary SI internal combustion engine with maximum engine power greater than or equal to 500 HP that is manufactured after July 1, 2007 and before July 1, 2008, and must comply with the emission standards specified in sections 60.4233(b) or (c), you must comply by one of the methods specified in paragraphs (h)(1) through (h)(4) of this section.

(1) Purchasing an engine certified according to 40 CFR part 1048. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(i) If you are an owner or operator of a modified or reconstructed stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(f), you must demonstrate compliance according to one of the methods specified in paragraphs (i)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in §60.4233(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in §60.4244. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

[73 FR 3591, Jan. 18, 2008, as amended at 76 FR 37974, June 28, 2011]

### Testing Requirements for Owners and Operators

#### **§ 60.4244 What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?**

Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to this subpart.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.

(d) To determine compliance with the  $\text{NO}_x$  mass per unit output emission limitation, convert the concentration of  $\text{NO}_x$  in the engine exhaust using Equation 1 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{\text{HP} \cdot \text{hr}} \quad (\text{Eq. 1})$$

Where:

ER = Emission rate of  $\text{NO}_x$  in g/HP-hr.

$C_d$  = Measured  $\text{NO}_x$  concentration in parts per million by volume (ppmv).

$1.912 \times 10^{-3}$  = Conversion constant for ppm  $\text{NO}_x$  to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

(e) To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this section:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 2})$$

Where:

ER = Emission rate of CO in g/HP-hr.

Cd = Measured CO concentration in ppmv.

$1.164 \times 10^{-3}$  = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(f) For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section:

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 3})$$

Where:

ER = Emission rate of VOC in g/HP-hr.

Cd = VOC concentration measured as propane in ppmv.

$1.833 \times 10^{-3}$  = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(g) If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section.



$$RF_i = \frac{C_M}{C_{Ai}} \quad (\text{Eq. 4})$$

Where:

RF<sub>i</sub>= Response factor of compound i when measured with EPA Method 25A.

C<sub>Mi</sub>= Measured concentration of compound i in ppmv as carbon.

C<sub>Ai</sub>= True concentration of compound i in ppmv as carbon.

$$C_{i_{corr}} = RF_i \times C_{i_{meas}} \quad (\text{Eq. 5})$$

Where:

C<sub>i<sub>corr</sub></sub>= Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

C<sub>i<sub>meas</sub></sub>= Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{P_{eq}} = 0.6098 \times C_{i_{corr}} \quad (\text{Eq. 6})$$

Where:

C<sub>P<sub>eq</sub></sub>= Concentration of compound i in mg of propane equivalent per DSCM.

### **Notification, Reports, and Records for Owners and Operators**

#### **§ 60.4245 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?**

Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(2) Maintenance conducted on the engine.

(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.

(4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

(b) For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI

emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

(c) Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in §60.4231 must submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section.

(1) Name and address of the owner or operator;

(2) The address of the affected source;

(3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(4) Emission control equipment; and

(5) Fuel used.

(d) Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

## **General Provisions**

### **§ 60.4246 What parts of the General Provisions apply to me?**

Table 3 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

## **Mobile Source Provisions**

### **§ 60.4247 What parts of the mobile source provisions apply to me if I am a manufacturer of stationary SI internal combustion engines or a manufacturer of equipment containing such engines?**

(a) Manufacturers certifying to emission standards in 40 CFR part 90, including manufacturers certifying emergency engines below 130 HP, must meet the provisions of 40 CFR part 90. Manufacturers certifying to emission standards in 40 CFR part 1054 must meet the provisions of 40 CFR part 1054. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054, must meet the provisions of 40 CFR part 1060 to the extent they apply to equipment manufacturers.

(b) Manufacturers required to certify to emission standards in 40 CFR part 1048 must meet the provisions of 40 CFR part 1048. Manufacturers certifying to emission standards in 40 CFR part 1048 pursuant to the voluntary certification program must meet the requirements in Table 4 to this subpart as well as the standards in 40 CFR 1048.101.

(c) For manufacturers of stationary SI internal combustion engines participating in the voluntary certification program and certifying engines to Table 1 to this subpart, Table 4 to this subpart shows which parts of the mobile source provisions in 40 CFR parts 1048, 1065, and 1068 apply to you. Compliance with the deterioration factor provisions under 40 CFR 1048.205(n) and 1048.240 will be required for engines built new on and after January 1, 2010. Prior to

January 1, 2010, manufacturers of stationary internal combustion engines participating in the voluntary certification program have the option to develop their own deterioration factors based on an engineering analysis.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

## Definitions

### § 60.4248 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

*Certified emissions life* means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) are given in 40 CFR 90.105, 40 CFR 1054.107, and 40 CFR 1060.101, as appropriate. The values for certified emissions life for stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) certified to 40 CFR part 1048 are given in 40 CFR 1048.101(g). The certified emissions life for stationary SI ICE with a maximum engine power greater than 75 KW (100 HP) certified under the voluntary manufacturer certification program of this subpart is 5,000 hours or 7 years, whichever comes first. You may request in your application for certification that we approve a shorter certified emissions life for an engine family. We may approve a shorter certified emissions life, in hours of engine operation but not in years, if we determine that these engines will rarely operate longer than the shorter certified emissions life. If engines identical to those in the engine family have already been produced and are in use, your demonstration must include documentation from such in-use engines. In other cases, your demonstration must include an engineering analysis of information equivalent to such in-use data, such as data from research engines or similar engine models that are already in production. Your demonstration must also include any overhaul interval that you recommend, any mechanical warranty that you offer for the engine or its components, and any relevant customer design specifications. Your demonstration may include any other relevant information. The certified emissions life value may not be shorter than any of the following:

- (i) 1,000 hours of operation.
- (ii) Your recommended overhaul interval.
- (iii) Your mechanical warranty for the engine.

*Certified stationary internal combustion engine* means an engine that belongs to an engine family that has a certificate of conformity that complies with the emission standards and requirements in this part, or of 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054, as appropriate.

*Combustion turbine* means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

*Compression ignition* means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

*Date of manufacture* means one of the following things:

- (1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.
- (2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

(3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

*Diesel fuel* means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

*Digester gas* means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and carbon dioxide (CO<sub>2</sub>).

*Emergency stationary internal combustion engine* means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary SI ICE used for peak shaving are not considered emergency stationary ICE. Stationary ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

*Engine manufacturer* means the manufacturer of the engine. See the definition of "manufacturer" in this section.

*Four-stroke engine* means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

*Freshly manufactured engine* means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

*Gasoline* means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

*Installed* means the engine is placed and secured at the location where it is intended to be operated.

*Landfill gas* means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO<sub>2</sub>.

*Lean burn engine* means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

*Liquefied petroleum gas* means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining or natural gas production.

*Manufacturer* has the meaning given in section 216(1) of the Clean Air Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for resale.

*Maximum engine power* means maximum engine power as defined in 40 CFR 1048.801.

*Model year* means the calendar year in which an engine is manufactured (see "date of manufacture"), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see "date of manufacture"), if the annual new model production period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.

(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see "date of manufacture").

*Natural gas* means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

*Other internal combustion engine* means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

*Pipeline-quality natural gas* means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline-quality natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1,100 British thermal units per standard cubic foot.

*Rich burn engine* means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to June 12, 2006, with passive emission control technology for NO<sub>x</sub> (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

*Rotary internal combustion engine* means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

*Spark ignition* means relating to either: a gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

*Stationary internal combustion engine* means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(i) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

*Stationary internal combustion engine test cell/stand* means an engine test cell/stand, as defined in 40 CFR part 63, subpart PFFFF, that tests stationary ICE.

*Stoichiometric* means the theoretical air-to-fuel ratio required for complete combustion.

*Subpart* means 40 CFR part 60, subpart JJJJ.

*Two-stroke engine* means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

*Volatile organic compounds* means volatile organic compounds as defined in 40 CFR 51.100(s).

*Voluntary certification program* means an optional engine certification program that manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to participate in to certify their engines to the emission standards in §60.4231(d) or (e), as applicable.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008; 76 FR 37974, June 28, 2011]

**Table 1 to Subpart JJJJ of Part 60—NO<sub>x</sub>, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP**

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards <sup>a</sup>					
			g/HP-hr			ppmvd at 15% O <sub>2</sub>		
			NO <sub>x</sub>	CO	VOC <sup>d</sup>	NO <sub>x</sub>	CO	VOC <sup>d</sup>
Non-Emergency SI Natural Gas <sup>b</sup> and Non-Emergency SI Lean Burn LPG <sup>b</sup>	100≤HP<500	7/1/2008	2.0	4.0	1.0	160	540	86
		1/1/2011	1.0	2.0	0.7	82	270	60
Non-Emergency SI Lean Burn Natural Gas and LPG	500≤HP<1,350	1/1/2008	2.0	4.0	1.0	160	540	86
		7/1/2010	1.0	2.0	0.7	82	270	60
Non-Emergency SI Natural Gas and Non-Emergency SI Lean Burn LPG (except lean burn 500≤HP<1,350)	HP≥500	7/1/2007	2.0	4.0	1.0	160	540	86
		7/1/2010	1.0	2.0	0.7	82	270	60
Landfill/Digester Gas (except lean burn 500≤HP<1,350)	HP<500	7/1/2008	3.0	5.0	1.0	220	610	80
		1/1/2011	2.0	5.0	1.0	150	610	80
	HP≥500	7/1/2007	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Landfill/Digester Gas Lean Burn	500≤HP<1,350	1/1/2008	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Emergency	25<HP<130	1/1/2009	<sup>c</sup> 10	387	N/A	N/A	N/A	N/A
		HP≥130	2.0	4.0	1.0	160	540	86

<sup>a</sup>Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O<sub>2</sub>.

<sup>b</sup>Owners and operators of new or reconstructed non-emergency lean burn SI stationary engines with a site rating of greater than or equal to 250 brake HP located at a major source that are meeting the requirements of 40 CFR part 63, subpart ZZZZ, Table 2a do not have to comply with the CO emission standards of Table 1 of this subpart.

<sup>c</sup>The emission standards applicable to emergency engines between 25 HP and 130 HP are in terms of NOX + HC.

<sup>d</sup>For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

[76 FR 37975, June 28, 2011]

**Table 2 to Subpart JJJJ of Part 60—Requirements for Performance Tests**

As stated in §60.4244, you must comply with the following requirements for performance tests within 10 percent of 100 percent peak (or the highest achievable) load:

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary SI internal combustion engine demonstrating compliance according to §60.4244	a. limit the concentration of NO <sub>x</sub> in the stationary SI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, Appendix A or ASTM Method D6522–00(2005) <sup>a</sup>	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O <sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B <sup>b</sup> of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005) <sup>a</sup>	(b) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for NO <sub>x</sub> concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60	
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(c) Measurements to determine moisture must be made at the same time as the measurement for NO <sub>x</sub> concentration.

		sampling port location; and	(incorporated by reference, see §60.17)	
		v. Measure NO <sub>x</sub> at the exhaust of the stationary internal combustion engine	(5) Method 7E of 40 CFR part 60, appendix A, Method D6522-00(2005) <sup>a</sup> , Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(d) Results of this test consist of the average of the three 1-hour or longer runs.
	b. limit the concentration of CO in the stationary SI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, Appendix A or ASTM Method D6522-00(2005) <sup>a</sup>	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O <sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B <sup>b</sup> of 40 CFR part 60, appendix A or ASTM Method D6522-00(2005) <sup>a</sup>	(b) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for CO concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60	
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by	(c) Measurements to determine moisture must be made at the same time as the measurement for CO concentration.



		location; and	reference, see §60.17)	
		v. Measure CO at the exhaust of the stationary internal combustion engine	(5) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522-00(2005) <sup>a</sup> , Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(d) Results of this test consist of the average of the three 1-hour or longer runs.
	c. limit the concentration of VOC in the stationary SI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, Appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O <sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B <sup>b</sup> of 40 CFR part 60, appendix A or ASTM Method D6522-00(2005) <sup>a</sup>	(b) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for VOC concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60	
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see	(c) Measurements to determine moisture must be made at the same time as the measurement for VOC concentration.

			§60.17)	
		v. Measure VOC at the exhaust of the stationary internal combustion engine	(5) Methods 25A and 18 of 40 CFR part 60, appendix A, Method 25A with the use of a methane cutter as described in 40 CFR 1065.265, Method 18 or 40 CFR part 60, appendix A <sup>c,d</sup> , Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.

[76 FR 37975, June 28, 2011]

**Table 3 to Subpart JJJJ of Part 60—Applicability of General Provisions to Subpart JJJJ**

[As stated in §60.4246, you must comply with the following applicable General Provisions]

<b>General provisions citation</b>	<b>Subject of citation</b>	<b>Applies to subpart</b>	<b>Explanation</b>
§60.1	General applicability of the General Provisions	Yes	
§60.2	Definitions	Yes	Additional terms defined in §60.4248.
§60.3	Units and abbreviations	Yes	
§60.4	Address	Yes	
§60.5	Determination of construction or modification	Yes	
§60.6	Review of plans	Yes	
§60.7	Notification and Recordkeeping	Yes	Except that §60.7 only applies as specified in §60.4245.
§60.8	Performance tests	Yes	Except that §60.8 only applies to owners and operators who are subject to

			performance testing in subpart JJJJ.
§60.9	Availability of information	Yes	
§60.10	State Authority	Yes	
§60.11	Compliance with standards and maintenance requirements	Yes	Requirements are specified in subpart JJJJ.
§60.12	Circumvention	Yes	
§60.13	Monitoring requirements	No	
§60.14	Modification	Yes	
§60.15	Reconstruction	Yes	
§60.16	Priority list	Yes	
§60.17	Incorporations by reference	Yes	
§60.18	General control device requirements	No	
§60.19	General notification and reporting requirements	Yes	

**Table 4 to Subpart JJJJ of Part 60—Applicability of Mobile Source Provisions for Manufacturers Participating in the Voluntary Certification Program and Certifying Stationary SI ICE to Emission Standards in Table 1 of Subpart JJJJ**

[As stated in §60.4247, you must comply with the following applicable mobile source provisions if you are a manufacturer participating in the voluntary certification program and certifying stationary SI ICE to emission standards in Table 1 of subpart JJJJ]

<b>Mobile source provisions citation</b>	<b>Subject of citation</b>	<b>Applies to subpart</b>	<b>Explanation</b>
1048 subpart A	Overview and Applicability	Yes	
1048 subpart B	Emission Standards and Related Requirements	Yes	Except for the specific sections below.
1048.101	Exhaust Emission Standards	No	
1048.105	Evaporative Emission Standards	No	
1048.110	Diagnosing Malfunctions	No	
1048.140	Certifying Blue Sky Series Engines	No	
1048.145	Interim Provisions	No	

1048 subpart C	Certifying Engine Families	Yes	Except for the specific sections below.
1048.205(b)	AECD reporting	Yes	
1048.205(c)	OBD Requirements	No	
1048.205(n)	Deterioration Factors	Yes	Except as indicated in 60.4247(c).
1048.205(p)(1)	Deterioration Factor Discussion	Yes	
1048.205(p)(2)	Liquid Fuels as they require	No	
1048.240(b)(c)(d)	Deterioration Factors	Yes	
1048 subpart D	Testing Production-Line Engines	Yes	
1048 subpart E	Testing In-Use Engines	No	
1048 subpart F	Test Procedures	Yes	
1065.5(a)(4)	Raw sampling (refers reader back to the specific emissions regulation for guidance)	Yes	
1048 subpart G	Compliance Provisions	Yes	
1048 subpart H	Reserved		
1048 subpart I	Definitions and Other Reference Information	Yes	
1048 appendix I and II	Yes		
1065 (all subparts)	Engine Testing Procedures	Yes	Except for the specific section below.
1065.715	Test Fuel Specifications for Natural Gas	No	
1068 (all subparts)	General Compliance Provisions for Nonroad Programs	Yes	Except for the specific sections below.
1068.245	Hardship Provisions for Unusual Circumstances	No	
1068.250	Hardship Provisions for Small-Volume Manufacturers	No	
1068.255	Hardship Provisions for Equipment Manufacturers and Secondary Engine	No	

	Manufacturers		
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APPENDIX C

Equipment List

Source No.	Year Installed	NSPS	Description	Control Equipment
<b>Dryer Dust Collection</b>				
SN-01	Pre 1986		BU-01 Burner	WS-01 and Cyclone
	Pre 1986		DR-01 Fluid Bed Dryer	
	Pre 1983		BC-06 Screen Plant Feed Belt	
	Pre 1983		BC-07 Rail Loadout Belt	
	Pre 1983		LS-01 Rail Loadout	
<b>Screen House Collection System</b>				
SN-02	Pre 1983		BC-08 Truck Loadout Belt	WS-02
	Pre 1983		BC-09 -40 Bin Discharge Belt	
	Pre 1983		BC-10 -40 Transfer Belt	
	Pre 1983		BC-11 Rail Loadout, Inclined Belt	
	4/23/2010	OOO	BC-14 Belt conveyor	
	4/23/2010	OOO	BC-15 Belt conveyor	
	4/23/2010	OOO	BC-16 Belt conveyor	
	4/23/2010	OOO	BC-17 Belt conveyor	
	Pre 1983		BE-02 Truck Loadout Elevator	
	4/23/2010	OOO	BE-09 Replaced BE-03	
	4/23/2010		BE-03 Replaced by BE-09	
	Pre 1983		BE-04 -40 Secondary Elevator	
	4/23/2010	OOO	BE-06 Bucket Elevator	
	4/23/2010	OOO	BE-07 Bucket elevator	
	3/2012	OOO	BE-08 Bucket elevator	
	Pre 1983		BN-03 Sand Box #1	
	Pre 1983		BN-04 Scalping Bin	
	Pre 1983		BN-05 Truck Loadout Surge Bin	
	12/1/2007	OOO	BN-05A	
	Pre 1983		BN-06 4095 Bin	
	Pre 1983		BN-07 4075 Bin	
	Pre 1983		BN-08 -40 Bin	
	Pre 1983		BN-09 Sand Box #2	
	Pre 1983		BN-10 M-100A Bin	
	Pre 1983		BN-11 M-164 Bin	
	Pre 1983		BN-12 4020 Bin	
	Pre 1983		BN-13 M-100B Bin	
	Pre 1983		BN-14 Rail Loadout Surge Bin	
	Pre 1983		Truck Loadout(LS-02)	
	6/4/2008	OOO	Truck Loadout(LS-03)	
	Pre 1983		VS-04 Split Deck Primary	
	Pre 1983		VS-05 Split Deck Primary	

Source No.	Year Installed	NSPS	Description	Control Equipment
	Pre 1983		VS-06	
	Pre 1983		VS-07	
	Pre 1983		VS-08	
	Pre 1983		VS-09	
	Pre 1983		VS-10	
	Pre 1983		VS-11	
	Pre 1983		VS-12	
	Pre 1983		VS-13	
	Pre 1983		VS-14	
	Pre 1983		VS-15	
	Pre 1983		VS-16	
	Pre 1983		VS-17	
	Pre 1983		VS-18	
	Pre 1983		VS-19	
	Pre 1983		VS-20	
	Pre 1983		VS-21	
	Pre 1983		VS-22	
	9/1/1992	000	VS-25	
	9/1/1992	000	VS-26	
	9/1/1992	000	VS-27	
	9/1/1992	000	VS-28	
	9/1/1992	000	VS-29	
	9/1/1992	000	VS-30	
	6/9/2008	000	VS-31	
	Proposed 2011		SC-301 Screw conveyor	
	Proposed 2011		SC-302 Screw conveyor	
	Proposed 2011	000	BC-301 -40 Bin Discharge Belt	
	Proposed 2011	000	BC-310 -40 Transfer Belt	
SN-02A	10/27/1995	000	BC-00 Grizzley Feeder Discharge Belt	damp material
SN-03	10/27/1995	000	BC-01 Jaw Discharge Belt Conveyor	damp material
SN-04	3/25/1997	000	BC-02 Hammer Mill Discharge Belt	damp material
SN-05	9/1/1991	000	BC-03A Raw Sand Silo Discharge Belt	damp material
SN-06	9/1/1993	000	BC-03C Transfer belt	damp material
SN-07	9/1/2005	000	BC-04A Dryer Feed Belt	damp material
SN-08	9/1/2005	000	BC-05 Dryer Feed Belt	damp material
SN-09	Removed 2/11		BC-12 Bag Plant, Car Unloading Belt 2	

Source No.	Year Installed	NSPS	Description	Control Equipment
SN-10	Pre 1983		Plant Feed Stockpiles	damp material
SN-11	Removed 2/11		BE-05 Bagging Plant Elevator	
SN-12	Pre 1983		HO-01 Jaw Crusher Feed Hopper	damp material
SN-13	9/1/2005	OOO	HO-02 Portable Hopper to Dryer	damp material
SN-14	Pre 1983		BN-01 Raw Sand Silo	damp material
SN-15	Pre 1983		BN-02 Raw Sand Silo	damp material
SN-16	Removed 2/11		BN-15 Bagger Bin	covered
SN-17	Removed 2/11		BG-01 Bagger	In Building
SN-18	9/1/1991		BC-03B Conveyor	damp material
SN-19	10/27/1995	OOO	FE-01 Jaw Crusher Vibratory Feeder	damp material
SN-20	Proposed 2011	OOO	FE-03 Raw Sand Vibratory Feeder	damp material
SN-21	Proposed 2011	OOO	FE-04 Raw Sand Vibratory Feeder	damp material
SN-22	2/25/1997	OOO	VS-01	damp material
SN-23	9/1/1992	OOO	VS-02 Fresh Feed	damp material
SN-24	9/1/1992	OOO	VS-03 VSI Discharge	damp material
SN-25	10/27/1995		CR-01 Primary Jaw Crusher	damp material
SN-26	3/25/1997	OOO	CR-02 Hammer Mill	damp material
SN-27	10/27/2010		CR-03 VSI	damp material
SN-28	3/25/1997	OOO	BC-02A Transfer Belt	damp material
SN-29	3/25/1997	OOO	BC-01A Recirculation Belt	damp material
SN-30	Removed 2/11		BC-13 Bag Plant, Car Unloading Belt 1	
SN-31	Removed 2/11	OOO	BG-02 Bagger	In Building
SN-32	9/1/2005	OOO	BC-04B Belt conveyor	damp material
SN-33	9/1/2005	OOO	GF-01 Grizzle Feeder	damp material



Source No.	Year Installed	NSPS	Description	Control Equipment
SN-34	9/1/2005	OOO	SB-01 Surge Bin	damp material
SN-35	Pre 1983	No	HO-200 Hopper	Limestone
SN-36	Pre 1983	No	FE-200 Feeder	Limestone
SN-37	Pre 1983	No	CR-200 Crusher	Limestone
SN-38	Pre 1983	No	BC-200 Stacking Belt Conveyor	Limestone
SN-39	Pre 1983		Product Stockpile	Limestone
SN-40	Pre 1983	No	GE-200 Diesel Gen 350 BHP	None
SN-41	4/23/2010	OOO	BN-16 Feed Bin	DC-03
	4/23/2010	OOO	VS-32 Screen	
	4/23/2010	OOO	VS-33 Screen	
	4/23/2010	OOO	VS-34 Screen	
	4/23/2010	OOO	VS-35 Screen	
SN-42	4/23/2010	OOO	BC-18 Belt Conveyor	DC-04
	4/23/2010	OOO	BN-17 Storage Bin	
	4/23/2010	OOO	LS-03 Truck Loadout	
SN-43	10/23/1010	OOO	BE-01 Bucket elevator	DC-05
<b>Plant 2</b>				
SN-44	7/3/2011		RRL-01 RR Unloading to BC-302	None
SN-45	7/3/2011		TRL-01 Truck unloading to BC-304	None
<b>Railcar Unloading BH-316</b>				
SN-46	7/3/2011		BC-302 Belt Conveyor	BH-316
	7/3/2011		BE-305 Bucket Elevator	BH-316
	7/3/2011		BC-303 Belt Conveyor Tail	BH-316
	3/2012		HO-301 Rail Car Hopper	BH-316
<b>Raw Material</b>				
SN-47	7/3/2011		BC-303 Belt Conveyor Head	BH-320
	7/3/2011		T-313 Tank	BH-320
	7/3/2011		BC-304 Belt Conveyor	BH-320
	7/3/2011		BC-311 Belt Conveyor	BH-320
	7/3/2011		T-307 Tank	BH-320
	7/3/2011		T-308 Tank	BH-320
	7/3/2011		BC-312 Belt Conveyor	BH-320
	7/3/2011		BE-315 Bucket Elevator	BH-320
	7/3/2011		BC-301 Belt Conveyor Head	BH-320
7/3/2011		BC-310 Belt Conveyor Head	BH-320	
<b>Process Area Cold</b>				
SN-48	7/3/2011		BC-101 Belt Conveyor Head	BH-629
	7/3/2011		BC-201 Belt Conveyor Head	BH-629
	7/3/2011		DT-102 Day Tank	BH-629
	7/3/2011		WH-103 Weigh Hopper	BH-629
	7/3/2011		CLS-107 Screening	BH-629
	7/3/2011		BE-108 Bucket Elevator	BH-629

Source No.	Year Installed	NSPS	Description	Control Equipment
	7/3/2011		CLR-109 Cooler	BH-629
	7/3/2011		CLS-110 Screening	BH-629
	7/3/2011		T-112 Tank	BH-629
	7/3/2011		CLR-209 Cooler	BH-629
	7/3/2011		CLS-210 Screening	BH-629
	7/3/2011		T-212 Tank	BH-629
	7/3/2011		Waste bin 1 Waste bin	BH-629
	7/3/2011		Waste bin 2 Waste bin	BH-629
	7/3/2011		Waste bin 3 Waste bin	BH-629
	7/3/2011		Waste bin 4 Waste bin	BH-629
	7/3/2011		Waste bin 5 Waste-bin	BH-629
7/3/2011		Waste bin 10 Waste bin	BH-629	
<b>Heater Exhaust</b>				
SN-49	7/3/2011		HT-104 Burner	BH-602
	7/3/2011		HT-204 Burner	BH-602
	7/3/2011		BC-101 Belt Conveyor tail	BH-602
	7/3/2011		BC-201 Belt Conveyor tail	BH-602
	7/3/2011		DT-202 Day Tank	BH-602
	7/3/2011		WH-203 Weigh Hopper	BH-602
	7/3/2011		CLS-207 Screening	BH-602
	7/3/2011		BE-208 Bucket Elevator	BH-602
	7/3/2011		Waste bin 6 Waste bin	BH-602
	7/3/2011		Waste bin 7 Waste bin	BH-602
	7/3/2011		Waste bin 8 Waste bin	BH-602
7/3/2011		Waste bin 9 Waste bin	BH-602	
<b>Finished Product Rail .</b>				
SN-52	7/3/2011		BC-115 Belt Conveyor head	BH-509
	7/3/2011		BC-215 Belt conveyor	BH-509
	7/3/2011		BE-116 Bucket Elevator	BH-509
	7/3/2011		T-506 Day Tank	BH-509
	7/3/2011		T-507 Day Tank	BH-509
	7/3/2011		T-508 Day Tank	BH-509
	7/3/2011		BE-216 Bucket Elevator	BH-509
	7/3/2011		BC-501 Belt Conveyor Tail	BH-509
<b>Finished Product Truck</b>				
SN-53	7/3/2011		BC-501 Belt Conveyor Head	BH-511
	7/3/2011		BE-516 Bucket Elevator	BH-511
	7/3/2011		BC-502 Belt Conveyor Tail	BH-511
	7/3/2011		BC-503 Belt Conveyor Tail	BH-511
<b>Truck Loading</b>				
SN-54	7/3/2011		BC-503 Belt Conveyor Head	BH-510
	7/3/2011		LS-520 Loadout	BH-510
<b>Railcar Loading</b>				

Source No.	Year Installed	NSPS	Description	Control Equipment
SN-55	7/3/2011		BC-502 Belt Conveyor Head	BH-512
	7/3/2011		LS-521 Loadout	BH-512
	7/3/2011		LS-522 Loadout	BH-512
	3/2012		WF-501 Weigh Feeder	BH-512
<b>Mixing - RTO</b>				
SN-56	7/3/2011		BM-105 Line 1 Batch Mixer	RTO-601
	7/3/2011		BM-205 Line 2 Batch Mixer	RTO-601
	7/3/2011		CM-107 Line 1 Continuous Mixer	RTO-601
	7/3/2011		CM-207 Line 2 Continuous Mixer	RTO-601
<b>Solid Resin</b>				
SN-57	7/3/2011		DS-125 Dump Station	BH-122
	7/3/2011		BE-119 Bucket Elevator	BH-122
	7/3/2011		DT-118 Day Tank	BH-122
	7/3/2011		SC-121 Screw Conveyor	BH-122
	7/3/2011		SC-221 Screw Conveyor	BH-122
	7/3/2011		WH-120 Weigh Hopper	BH-122
	7/3/2011		WH-220 Weigh Hopper	BH-122
SN-58	7/3/2011	JJJJ	Emergency Generator	
SN-59	7/3/2011		T-406 Liquid Resin Storage Tank	None
SN-66	7/3/2011		HO-641 Waste Hopper	None
SN-67	7/3/2011		BC-641 Waste Belt Conveyor	None
SN-68	7/3/2011		T-642 Waste Tank	None
SN-69	7/3/2011		LS-523 Waste Unloading	None

**CERTIFICATE OF SERVICE**

I, Pam Owen, hereby certify that a copy of this permit has been mailed by first class mail to Unimin Corporation, P.O. Box 29, Guion, AR, 72540-0029, on this 23<sup>rd</sup> day of December 2013.

Pam Owen  
Pam Owen, AAI, Air Division