

ADEQ OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation 26:

Permit No. : 0592-AOP-R8

IS ISSUED TO:

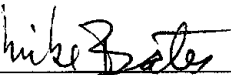
Deltic Timber Corporation - Ola Mill
729 729 Highway 10 East
Ola, AR 72853
Yell County
AFIN: 75-00009

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

January 13, 2009 AND January 12, 2014

THE PERMITTEE IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:



Mike Bates
Chief, Air Division

March 30, 2009

Date Modified

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Appendix A

40 CFR Part 60, Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

Appendix B

40 CFR Part 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

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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 |
| MVAC | Motor Vehicle Air Conditioner |
| No. | Number |
| NO _x | Nitrogen Oxide |
| PM | Particulate Matter |
| PM ₁₀ | Particulate Matter Smaller Than Ten Microns |
| SNAP | Significant New Alternatives Program (SNAP) |
| SO ₂ | Sulfur Dioxide |
| SSM | Startup, Shutdown, and Malfunction Plan |
| Tpy | Tons Per Year |
| UTM | Universal Transverse Mercator |
| VOC | Volatile Organic Compound |

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SECTION I: FACILITY INFORMATION

| | |
|----------------------|--|
| PERMITTEE: | Deltic Timber Corporation - Ola Mill |
| AFIN: | 75-00009 |
| PERMIT NUMBER: | 0592-AOP-R8 |
| FACILITY ADDRESS: | 729 729 Highway 10 East Ola, AR 72853 |
| MAILING ADDRESS: | P.O. Box 129 Ola, AR 72853-0129 |
| COUNTY: | Yell County |
| CONTACT NAME: | Jack Carter |
| CONTACT POSITION: | Safety and Environmental Coordinator |
| TELEPHONE NUMBER: | 479-489-5223 ext. 105 |
| REVIEWING ENGINEER: | Charles Hurt, P.E. |
| UTM North South (Y): | Zone 15: 3875933.08 m |
| UTM East West (X): | Zone 15: 480609.07 m |

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SECTION II: INTRODUCTION

Summary of Permit Activity

Deltic Timber Corporation (AFIN: 75-00009) owns and operates an existing sawmill on Highway 10 East near Ola, Arkansas. Deltic submitted an application to install a second edger at the sawmill operations (SN-02). The emissions from SN-02 are limited by kiln production of dried lumber, and since the dried lumber production limit was not increased permitted annual emissions for SN-02 was not increased.

Process Description

SAWMILL

Logs are delivered to the mill log yard where they are off-loaded and stored until needed by the mill. They are moved to the log decks by rubber-tired loaders, and they are mechanically conveyed through the debarking and sawing equipment. Pulp chips and sawdust produced in the sawing operation are loaded into trucks for transport to consumers. Rough, green lumber is sorted and stacked in packages and stored on the yard until loaded into the dry kilns. Lumber packages are moved from the stacker to storage and to the dry kilns by loaders.

DRY KILNS

The Ola Mill currently operates two direct-fired kilns (SN-04 and SN-05) and two steam-heated kilns (SN-06 and SN-12). The direct-fired kilns use suspension type wood waste burner systems. The metering bins that deliver wood fuel to the kilns are equipped with revolution counters, which are tracked with the facility's computer system.

PLANER MILL

Dried lumber from the kilns is taken to the planer mill where it is surfaced and trimmed before being packaged for shipment. Planer shavings are collected by a pneumatic conveying system and delivered to a storage bin. The shavings are then either loaded into trucks for shipment to consumers or diverted to the fuel preparation system, which processes the material for use as fuel in the direct-fired kilns or boiler. The pneumatic conveying system also serves the dry trim hog.

POWERHOUSE

The Ola Mill currently operates one biogas-fired boiler designed to produce 40,000 pounds per hour of steam at 180 psig for use in the lumber drying kilns. The boiler is close-coupled to a biomass gassifier that consumes bark and green sawdust to produce biogas, which is fired in the boiler.

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MISCELLANEOUS ACTIVITIES

The following miscellaneous operations are conducted as support for the Ola Mill:

1. Maintenance activities such as welding and cutting for metal fabrication and repair and routine equipment and building up keep.
2. One motor oil storage tank, one saw oil storage tank, and 16 hydraulic fluid storage tanks.

Emissions associated with these activities are insignificant.

Regulations

The following table contains the regulations applicable to this permit.

| Regulations |
|--|
| <i>Arkansas Air Pollution Control Code, Regulation 18, effective January 25, 2009</i> |
| <i>Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective January 25, 2009</i> |
| <i>Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective January 25, 2009</i> |
| <i>40 CFR Part 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units</i> |
| <i>40 CFR Part 63, Subpart DDDD – National Emission Standards for Hazardous Air Pollutants for Plywood and Composite Wood Products Manufacture *</i> |

* Initial Notification is the only applicable requirement for existing operations.

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Emission Summary

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

| EMISSION SUMMARY | | | | |
|---|----------------------------------|--------------------------|----------------|--------------------|
| Source No. | Description | Pollutant | Emission Rates | |
| | | | lb/hr | tpy |
| Total Allowable Criteria Pollutant Emissions | | PM | 47.6 | 139.9 |
| | | PM ₁₀ | 18.0 | 66.6 |
| | | SO ₂ | 2.2 | 9.4 |
| | | VOC | 69.3 | 319.7 |
| | | CO | 65.8 | 297.1 |
| | | NO _x | 22.5 | 97.9 |
| Total Allowable Non-Criteria Pollutant Emissions (included in VOC totals unless noted otherwise) | | Acetaldehyde | 0.64 | 2.94 |
| | | Acrolein | 0.11 | 0.41 |
| | | Benzene | 0.04 | 0.12 |
| | | Cadmium ^D | 0.01 | 0.01 |
| | | Chromium ^D | 0.01 | 0.01 |
| | | Chromium VI ^D | 0.02 | 0.01 |
| | | Cumene | 0.04 | 0.05 |
| | | Dibutyl Phthalate | 0.03 | 0.02 |
| | | Ethyl Benzene | 0.03 | 0.07 |
| | | Formaldehyde | 0.94 | 4.35 |
| | | HCl ^C | 0.9 | 3.95 |
| | | Hexane | 0.1 | 0.34 |
| | | Lead ^D | 0.03 | 0.02 |
| | | Manganese ^D | 0.09 | 0.39 |
| | | Mercury ^D | 0.0001 | 0.00045 |
| | | Methanol | 3.44 | 16.04 |
| | | Naphthalene | 0.01 | 0.03 |
| | | Nickel ^D | 0.01 | 0.02 |
| | | PAH | 0.04 | 0.07 |
| | | Phosphorus | 0.03 | 0.07 |
| | | Toluene | 0.12 | 0.35 |
| | | Trichloroethylene | 0.03 | 0.02 |
| | | Xylene | 0.11 | 0.32 |
| Total Allowable Air Contaminant Emissions ^C | | Acetone ^C | 0.79 | 3.63 |
| 02 | Sawmill Operations | PM | 2.9 | 5.8 |
| | | PM ₁₀ | 1.7 | 3.3 |
| 04 | Dry Kiln No. 1 (Direct Fired) | PM | 2.2 | 20.3 ^A |
| | | PM ₁₀ | 2.2 | 20.3 ^A |
| | | SO ₂ | 0.3 | 2.7 ^A |
| | | VOC | 13.8 | 298.9 ^B |
| | | CO | 18.5 | 172.1 ^A |
| | | NO _x | 2.1 | 18.9 ^A |

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| EMISSION SUMMARY | | | | |
|------------------|----------------------------------|-------------------|----------------|----------------------|
| Source No. | Description | Pollutant | Emission Rates | |
| | | | lb/hr | tpy |
| 04 | Dry Kiln No. 1 (Direct Fired) | Acetaldehyde | 0.11 | 2.91 ^B |
| | | Acetone | 0.20 | 3.63 ^B |
| | | Acrolein | 0.02 | 0.12 ^A |
| | | Chromium VI | 0.01 | 0.01 ^A |
| | | Cumene | 0.01 | 0.01 ^A |
| | | Dibutyl Phthalate | 0.01 | 0.01 ^A |
| | | Formaldehyde | 0.37 | 4.26 ^B |
| | | Hexane | 0.01 | 0.07 ^A |
| | | Lead | 0.01 | 0.01 ^A |
| | | Manganese | 0.01 | 0.09 ^A |
| | | Mercury | 1.0E-05 | 5.0E-05 ^A |
| | | Methanol | 0.58 | 15.64 ^B |
| | | PAH | 0.01 | 0.02 ^A |
| | | Phosphorus | 0.01 | 0.02 ^A |
| | | Trichloroethylene | 0.01 | 0.01 ^A |
| 05 | Dry Kiln No. 2 (Direct Fired) | PM | 2.2 | 20.3 ^A |
| | | PM ₁₀ | 2.2 | 20.3 ^A |
| | | SO ₂ | 0.3 | 2.7 ^A |
| | | VOC | 13.8 | 298.9 ^B |
| | | CO | 18.5 | 172.1 ^A |
| | | NO _x | 2.1 | 18.9 ^A |
| | | Acetaldehyde | 0.11 | 2.91 ^B |
| | | Acetone | 0.20 | 3.63 ^B |
| | | Acrolein | 0.02 | 0.12 ^A |
| | | Chromium VI | 0.01 | 0.01 ^A |
| | | Cumene | 0.01 | 0.01 ^A |
| | | Dibutyl Phthalate | 0.01 | 0.01 ^A |
| | | Formaldehyde | 0.37 | 4.26 ^B |
| | | Hexane | 0.01 | 0.07 ^A |
| | | Lead | 0.01 | 0.01 ^A |
| | | Manganese | 0.01 | 0.09 ^A |
| | | Mercury | 1.0E-05 | 5.0E-05 ^A |
| | | Methanol | 0.58 | 15.64 ^B |
| | | PAH | 0.01 | 0.02 ^A |
| | | Phosphorus | 0.01 | 0.02 ^A |
| | | Trichloroethylene | 0.01 | 0.01 ^A |
| 06 | Dry Kiln No. 3 (Steam Heated) | VOC | 16.8 | 298.9 ^B |
| | | Acetaldehyde | 0.19 | 2.91 ^B |
| | | Acetone | 0.18 | 3.63 ^B |
| | | Acrolein | 0.03 | 0.14 |
| | | Formaldehyde | 0.08 | 4.26 ^B |
| | | Methanol | 1.00 | 15.64 ^B |
| 11 | Fuel Storage Cyclone | PM | 2.7 | 11.8 |
| | | PM ₁₀ | 0.7 | 3.0 |

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| EMISSION SUMMARY | | | | |
|------------------|---|-------------------|----------------|--------------------|
| Source No. | Description | Pollutant | Emission Rates | |
| | | | lb/hr | tpy |
| 12 | Dry Kiln No. 4 (Steam Heated) | VOC | 19.8 | 298.9 ^B |
| | | Acetaldehyde | 0.22 | 2.91 ^B |
| | | Acetone | 0.21 | 3.63 ^B |
| | | Acrolein | 0.03 | 0.14 |
| | | Formaldehyde | 0.09 | 4.26 ^B |
| | | Methanol | 1.19 | 15.64 ^B |
| 13 | Bio-Gas Boiler with ESP 85% PM ₁₀ removal (60.0 MMBTU/hr) | PM | 4.8 | 21.1 |
| | | PM ₁₀ | 4.8 | 21.1 |
| | | SO ₂ | 1.5 | 6.6 |
| | | VOC | 4.2 | 18.4 |
| | | CO | 28.5 | 124.9 |
| | | NO _x | 18.0 | 78.9 |
| | | Acetaldehyde | 0.01 | 0.03 |
| | | Acrolein | 0.01 | 0.01 |
| | | Cadmium | 0.01 | 0.01 |
| | | Chromium | 0.01 | 0.01 |
| | | Cumene | 0.01 | 0.01 |
| | | Dibutyl Phthalate | 0.01 | 0.01 |
| | | Formaldehyde | 0.03 | 0.09 |
| | | HCl | 0.90 | 3.95 |
| | | Hexane | 0.04 | 0.15 |
| | | Lead | 0.01 | 0.01 |
| | | Manganese | 0.07 | 0.30 |
| | | Mercury | 8.00E-05 | 4.00E-04 |
| | | Methanol | 0.09 | 0.40 |
| | | Nickel | 0.01 | 0.02 |
| | | PAH | 0.02 | 0.05 |
| | | Phosphorus | 0.01 | 0.05 |
| | | Trichloroethylene | 0.01 | 0.01 |
| 14 | Shavings and Dry Trim Hog Cyclone | PM | 4.4 | 19.1 |
| | | PM ₁₀ | 1.1 | 4.8 |
| 15 | Gasoline Storage Tank 2,000 gallon | VOC | 3.0 | 1.0 |
| | | Benzene | 0.15 | 0.05 |
| | | Cumene | 0.03 | 0.01 |
| | | Ethyl Benzene | 0.09 | 0.03 |
| | | Hexane | 0.15 | 0.05 |
| | | Naphthalene | 0.03 | 0.01 |
| | | Toluene | 0.45 | 0.14 |
| | | Xylene | 0.42 | 0.13 |
| 16 | Planner Mill Shavings Handling | PM | 9.9 | 9.9 |
| | | PM ₁₀ | 0.1 | 0.1 |
| 17 | Paved Roads | PM | 1.3 | 4.0 |
| | | PM ₁₀ | 0.3 | 0.8 |
| 18 | Planner Hog Cyclone | PM | 5.0 | 21.9 |
| | | PM ₁₀ | 1.3 | 5.7 |

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| EMISSION SUMMARY | | | | |
|------------------|------------------------|------------------|----------------|------|
| Source No. | Description | Pollutant | Emission Rates | |
| | | | lb/hr | tpy |
| 19 | Boiler Water Feed Pump | PM | 0.1 | 0.1 |
| | | PM ₁₀ | 0.1 | 0.1 |
| | | SO ₂ | 0.1 | 0.1 |
| | | VOC | 0.1 | 0.1 |
| | | CO | 0.3 | 0.1 |
| | | NO _x | 0.3 | 0.1 |
| 20 | Unpaved Roads | PM | 12.1 | 25.9 |
| | | PM ₁₀ | 3.5 | 7.4 |

^A Total emissions for SN-04 and SN-05

^B VOC, acetone, acetaldehyde, formaldehyde, and methanol annual totals for all kilns

^C Air Contaminants such as ammonia, acetone, and certain halogenated solvents are not VOCs or HAPs.

^D Included in PM/PM₁₀ total.

^E Not included in VOC total.

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SECTION III: PERMIT HISTORY

Operations at this facility began in 1971.

Permit #592-A was issued to this facility on January 25, 1980. The particulate matter being emitted from the kilns were the only emissions listed in this permit.

Permit #592-AR-1 was issued to Deltic Farm and Timber Co., Inc. on October 29, 1996. This permit allowed the facility to convert the #3 drying kiln from direct fire to steam heat, install a new drying kiln, and to install a new boiler. This permit classified this facility as a major source pursuant to 40 CFR 52.21 due to permitted VOC emissions in excess of 250 tons per year. Previously, this facility was considered a minor source for PSD purposes because the point source emissions of all criteria pollutants were below the thresholds and the fugitive emissions were not required to be counted for the purpose of determining PSD applicability.

Permit #592-AOP-R0, issued on October 28, 1998, was the first operating permit issued to Deltic Timber Corporation - Ola Mill. No physical modifications occurred with the issuance of this permit. Hazardous Air Pollutants (HAPs) were identified in this permit for the first time. This permit continued to classify this facility as a major source pursuant to 40 CFR §52.21 due to volatile organic compound (VOC) emissions in excess of 250 tpy.

Permit #592-AOP-R1 is the second permit issued on April 4, 1999 to Deltic Timber Corporation's Ola facility under Regulation 26. Under this permit, Deltic Timber replaced the shavings and dry trim cyclones with one larger, high efficiency cyclone in a closed loop system. Also, an existing planer and an existing trim saw (SN-08) were replaced with new ones. A new dry trim hog replaced a converted rock crusher (SN-10). As a result of these modifications, the permitted emissions of particulate matter decreased. Emissions of other pollutants were not affected by this modification.

Permit #592-AOP-R2 was issued October 9, 2003. The permit was the first Title V Renewal issued to the facility. The following modifications requested change the method of calculation for PM/PM₁₀ emissions at the sawmill operations (SN-02), change the method of calculation for PM/PM₁₀ emissions for sawdust handling operations (SN-03) and reclassify the operations as an insignificant activity, reduce the frequency of opacity observations on SN-04 and SN-05 from daily to weekly, remove testing requirements for PM₁₀ and NO_x from sources SN-04, SN-05, and SN-13, remove CO testing for SN-04 and SN-05, reduce CO testing for SN-13 to once every five years; and update the emission factors for VOC and HAPs generated from combustion of wood waste at SN-04, SN-05, and SN-13. As a result of the modifications PM, PM₁₀, VOC, and Non-Criteria Pollutants in tpy decreased by 13.0, 6.0, 154.5, and 43.37, respectively. SO₂, CO, and NO_x increased by 0.1, 6.8, and 0.7, respectively. No physical changes or changes in method of operations occurred.

Permit #592-AOP-R3 was issued on October 8, 2004. Deltic submitted two separate minor modification applications.

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Modification #1

Deltic requested to install two (2) 2,000 gallon horizontal storage tanks. One tank (SN-15) will be used to store gasoline, and the other will be used to store diesel fuel. The diesel storage tank is considered to be an insignificant activity under A-3. The increase in emissions due to installation of the gasoline storage tank was 11.9 lb/hr and 1.0 tpy of VOC.

Modification #2

Deltic requested to correct number rounding errors in the permit so the numbers match those reported in the emission rate tables, account for non-stack emissions from handling shavings from the planer mill (SN-16), correct the limits for Acetaldehyde, Acetone, Formaldehyde, and Methanol for the dry kilns in Plantwide Condition #11, and update the insignificant activities list to include a 100 gallon portable diesel fuel storage tank and shavings, chips sawdust storage piles. PM, PM₁₀, VOC, Acetone, and Methanol permitted emissions increased by 22.5 tpy, 11.3 tpy, 0.1 tpy, 0.25 tpy, and 1.86 tpy, respectively. Acetaldehyde and Formaldehyde decreased by 7.70 tpy and 0.57 tpy, respectively.

Permit #592-AOP-R 4 was issued on May 5, 2005. Deltic requested clarification of Specific Condition #22 (d) so the condition did not imply the affected COMS unit must shut down during rake out periods. Deltic also requested authorization to combust in the boiler (SN-13) absorbent material that has been used to clean up incidental, on site oil spills. The absorbent material consists of wood chips, sawdust, and commercial products used to clean up oil spills. Permitted emissions were not increased because the absorbent material is less than 0.1% of the fuel throughput limit.

Permit #592-AOP-R5 was issued on May 22, 2006. Deltic requested the following modifications:

- Install new equipment and/or replace existing equipment used in the sawing operations (SN-02);
- Replace the heat energy systems for the two direct fired drying kilns (SN-04 and SN-05);
- Increase the lumber production limit from 125 MMBF/yr to 165 MMBF/yr; and
- Incorporate the requirements of CFR Part 63, Subpart DDDDD (Boiler MACT) for the existing wood fired boiler (SN-13).

At the sawmill, a new double length infeed and a drop sorter and stacker was installed. The edger and trim saw will be replaced with newer models, and the quad saw will be replaced with a band saw. Permitted emission limits for PM, PM₁₀, SO₂, VOC, CO, NO_x, and HCl increased by 13.3 tpy, 11.9 tpy, 0.6 tpy, 72.4 tpy, 41.7 tpy, 4.6 tpy, and 23.7 tpy, respectively. The emission increase for PM, PM₁₀, VOC, and CO associated with the modification were large enough to trigger Prevention of Significant Deterioration (PSD) review.

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BACT Determination Summary

| Source Number | Description | BACT Determination | BACT Limit | Compliance Determination |
|---------------|--------------------|---------------------------|---|--------------------------|
| SN-02 | Sawmill Operations | Enclosed Building | 0.014 lb PM/ton logs 0.008 lb PM ₁₀ /ton logs | Record Keeping |
| SN-04 | Dry Kiln No. 1 | Good Combustion Practices | 0.6 lb PM ₁₀ /MBF | Record Keeping |
| | | | 3.8 lb VOC/MBF | |
| | | | 2.8 lb CO/MBF | |
| SN-05 | Dry Kiln No. 2 | Good Combustion Practices | 0.6 lb PM ₁₀ /MBF | Record Keeping |
| | | | 3.8 lb VOC/MBF | |
| | | | 2.8 lb CO/MBF | |

Permit #592-AOP-R6 was issued on May 8, 2007 submitted an application which incorporated the requirements of the Manganese Health Based Compliance Alternative of 40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, Institutional Boilers and Process Heaters*. Deltic did not propose any physical changes or changes to methods of operation at the Ola facility.

SECTION IV: SPECIFIC CONDITIONS

SN-02

Sawmill Operations

Source Description

Logs are delivered to the mill log yard where they are off-loaded and stored until needed by the mill. They are moved to the log decks by rubber-tired loaders, and they are mechanically conveyed through the debarking and sawing equipment. Pulp chips and sawdust produced in the sawing operation are loaded into trucks for transport to consumers. Rough, green lumber is sorted and stacked in packages and stored on the yard until loaded into the dry kilns. Lumber packages are moved from the stacker to storage and to the dry kilns by loaders. The hourly limits were based upon the maximum capacity of the equipment.

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Plantwide Condition #9. [Regulation No. 19 §19.501 *et seq.* effective January 25, 2009, and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy |
|------------------|-------|-----|
| PM ₁₀ | 1.7 | 3.3 |

2. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Plantwide Condition #9. [Regulation No. 18 §18.801, effective January 25, 2009, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant | lb/hr | tpy |
|-----------|-------|-----|
| PM | 2.9 | 5.8 |

3. The permittee shall comply with the following BACT determination for SN-02. Compliance with the emission limits set forth in the following table shall be demonstrated through compliance with Plantwide Condition #10 (recordkeeping) and maintaining the building enclosure. [Regulation No. 19 §19.901 *et seq.* effective January 25, 2009, and 40 CFR Part 52, Subpart E]

| BACT Determination | BACT Limit | Compliance Determination |
|--------------------|---|--------------------------|
| Enclosed Building | 0.014 lb PM/ton logs 0.008 lb PM ₁₀ /ton logs | Recordkeeping |

SN-04 and SN-05

Direct Fired Drying Kiln #1 and #2

Source Description

The two direct fired kilns are heated with wood waste generated at this facility.

Specific Conditions

4. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Plantwide Condition #9. [Regulation No. 19 §19.501 *et seq.* effective January 25, 2009, and 40 CFR Part 52, Subpart E]

| Source No. | Pollutant | lb/hr | tpy |
|---|------------------|-------|--------------------|
| 04 | PM ₁₀ | 2.2 | - |
| | SO ₂ | 0.3 | |
| | VOC | 13.8 | |
| | CO | 18.5 | |
| | NO _x | 2.1 | |
| 05 | PM ₁₀ | 2.2 | - |
| | SO ₂ | 0.3 | |
| | VOC | 13.8 | |
| | CO | 18.5 | |
| | NO _x | 2.1 | |
| Total Annual Emissions for SN-04 and SN-05 | PM ₁₀ | - | 20.3 |
| | SO ₂ | - | 2.7 |
| | VOC | - | 298.9 ^A |
| | CO | - | 172.1 |
| | NO _x | - | 18.9 |

^A VOC total for all kilns

5. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Plantwide Condition #9. [Regulation No. 18 §18.801, effective January 25, 2009, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Source No. | Pollutant | lb/hr | tpy |
|------------|--------------|-------|-----|
| 04 | PM | 2.2 | - |
| | Acetaldehyde | 0.11 | |
| | Acetone | 0.20 | |
| | Acrolein | 0.02 | |
| | Chromium VI | 0.01 | |
| | Cumene | 0.01 | |

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| Source No. | Pollutant | lb/hr | tpy |
|---|-------------------|---------|--------------------|
| | Dibutyl Phthalate | 0.01 | |
| | Formaldehyde | 0.37 | |
| | Hexane | 0.01 | |
| | Lead | 0.01 | |
| | Manganese | 0.01 | |
| | Mercury | 1.0E-05 | |
| | Methanol | 0.58 | |
| | PAH | 0.01 | |
| | Phosphorus | 0.01 | |
| | Trichloroethylene | 0.01 | |
| 05 | PM | 2.2 | - |
| | Acetaldehyde | 0.11 | |
| | Acetone | 0.20 | |
| | Acrolein | 0.02 | |
| | Chromium VI | 0.01 | |
| | Cumene | 0.01 | |
| | Dibutyl Phthalate | 0.01 | |
| | Formaldehyde | 0.37 | |
| | Hexane | 0.01 | |
| | Lead | 0.01 | |
| | Manganese | 0.01 | |
| | Mercury | 1.0E-05 | |
| | Methanol | 0.58 | |
| | PAH | 0.01 | |
| | Phosphorus | 0.01 | |
| | Trichloroethylene | 0.01 | |
| Total Annual Emissions for SN-04 and SN-05 | PM | - | 20.3 |
| | Acetaldehyde | - | 2.91 ^A |
| | Acetone | - | 3.63 ^A |
| | Acrolein | - | 0.12 |
| | Chromium VI | - | 0.01 |
| | Cumene | - | 0.01 |
| | Dibutyl Phthalate | - | 0.01 |
| | Formaldehyde | - | 4.26 ^A |
| | Hexane | - | 0.07 |
| | Lead | - | 0.01 |
| | Manganese | - | 0.09 |
| | Mercury | - | 5.0E-05 |
| | Methanol | - | 15.64 ^A |
| | PAH | - | 0.02 |
| | Phosphorus | - | 0.02 |
| | Trichloroethylene | - | 0.01 |

^A Acetaldehyde, Acetone, Formaldehyde, and Methanol total for all kilns

6. The permittee shall not exceed 20% opacity from sources SN-04 and SN-05 as measured by EPA Reference Method 9. [Regulation No. 19 §19.503 and 40 CFR Part 52, Subpart E]
7. Weekly observations of the opacity from sources SN-04 and SN-05 shall be conducted by a person trained, but not necessarily certified, in EPA Reference Method 9. If visible emissions appear to be in excess of 20%, the permittee shall immediately take action to

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identify the cause of the excess visible emissions, implement corrective action, and document that visible emissions do not appear to be in excess of the permitted opacity following the corrective action. The permittee shall maintain records of any visible emissions which appeared to be in excess of the permitted opacity, the corrective action taken, and if visible emissions were present following the corrective action. The records of all observations shall be kept on site and made available to Department personnel upon request. [Regulation No. 19 §19.705 and 40 CFR Part 52, Subpart E]

8. Wood waste shall be the only fuel used to fire sources SN-04 and SN-05. [Regulation No. 19 §19.901 *et seq.* effective January 25, 2009, and 40 CFR Part 52, Subpart E]
9. The permittee shall comply with the following BACT determination for SN-04 and SN-05. Compliance with the emission limits set forth in the following table shall be demonstrated through compliance with Good Combustion Practices and record keeping (Plantwide Condition #9). [Regulation No. 19 §19.901 *et seq.* effective January 25, 2009, and 40 CFR Part 52, Subpart E]

| Description | BACT Determination | BACT Limit | Compliance Demonstration |
|---|---------------------------|------------------------------|--------------------------|
| Direct Fired Kilns (SN-04 and SN-05) | Good Combustion Practices | 0.6 lb PM ₁₀ /MBF | Record Keeping |
| | | 3.8 lb VOC/MBF | |
| | | 2.8 lb CO/MBF | |

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SN- 06 and SN-12

Steam Heated Drying Kilns No. 3 and No. 4

Source Description

Permit #592-AR-1 allowed the permittee to convert source SN-06 to steam heat from direct fired. The modification began in the spring of 1998. Emissions from source SN-06 are uncontrolled and consist of volatile organic compounds. There are eight stacks associated with this kiln.

SN-12 was installed in late 1997. Emissions from this source are uncontrolled and consist of volatile organic compounds. There are six stacks associated with this kiln.

Specific Conditions

10. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Plantwide Condition #9. [Regulation No. 19 §19.501 *et seq.* effective January 25, 2009, and 40 CFR Part 52, Subpart E]

| Source No. | Pollutant | lb/hr | tpy |
|------------|-----------|-------|--------------------|
| 06 | VOC | 16.8 | 298.9 ^A |
| 12 | VOC | 19.8 | |

^A VOC total for all kilns

11. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Plantwide Condition #9. [Regulation No. 18 §18.801, effective January 25, 2009, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Source No. | Pollutant | lb/hr | tpy |
|---|--------------|-------|--------------------|
| 06 | Acetaldehyde | 0.19 | |
| | Acetone | 0.18 | |
| | Acrolein | 0.03 | |
| | Formaldehyde | 0.08 | |
| | Methanol | 1.00 | |
| 12 | Acetaldehyde | 0.22 | |
| | Acetone | 0.21 | |
| | Acrolein | 0.03 | |
| | Formaldehyde | 0.09 | |
| | Methanol | 1.19 | |
| Total Annual Emissions for SN-06 and SN-12 | Acetaldehyde | - | 2.91 ^A |
| | Acetone | - | 3.63 ^A |
| | Acrolein | - | 0.28 |
| | Formaldehyde | - | 4.26 ^A |
| | Methanol | - | 15.64 ^A |

^A Acetaldehyde, Acetone, Formaldehyde, and Methanol total for all kilns

SN- 11, SN-14, and SN-18

Fuel Storage Cyclone, Shavings and Dry Trim Hog Cyclone, and Planner Hog Cyclone

Source Description

The dry kiln burner fuel storage cyclone has been designated as source SN-11. This cyclone is the part of the pneumatic conveying system that transports hogged planer shavings and dry trim from the fuel preparation system located adjacent to the shavings storage bin to the fuel storage bin that supplies fuel to the dry kiln burner systems. Material is conveyed in a 16" diameter line by approximately 6,980 cfm of ambient air.

The shavings and dry trim hog cyclone has been designated as source SN-14. This cyclone is part of a closed loop system which controls emissions generated by the trimming and shavings processes at this facility.

The planer hog system cyclone is designated as SN-18. The cyclone handles the hogged material and sawdust from the planer mill trim saw. It works in conjunction with SN-14 (shavings and dry trim hog cyclone).

Specific Conditions

12. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Plantwide Condition #9. [Regulation No. 19 §19.501 *et seq.* effective January 25, 2009, and 40 CFR Part 52, Subpart E]

| Source No. | Pollutant | lb/hr | tpy |
|------------|------------------|-------|-----|
| 11 | PM ₁₀ | 0.7 | 3.0 |
| 14 | PM ₁₀ | 1.1 | 4.8 |
| 18 | PM ₁₀ | 1.3 | 5.7 |

13. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Plantwide Condition #9. [Regulation No. 18 §18.801, effective January 25, 2009, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Source No. | Pollutant | lb/hr | tpy |
|------------|-----------|-------|------|
| 11 | PM | 2.7 | 11.8 |
| 14 | PM | 4.4 | 19.1 |
| 18 | PM | 5.0 | 21.9 |

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14. The permittee shall not exceed 20% opacity from sources SN-11, SN-14, and SN-18 as measured by EPA Reference Method 9. [Regulation No. 18 §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
15. Weekly observations of the opacities from sources SN-11, SN-14, and SN-18 shall be conducted by a person trained, but not necessarily certified, in EPA Reference Method 9. If any visible emissions are observed, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, the permittee shall conduct another observation of the opacity from the source in question to confirm that excess visible emissions are no longer present. The permittee shall maintain records of all visible emissions observations and any corrective action taken. The records of all observations shall be kept on site and shall be made available to Department personnel upon request. [Regulation No. 18 §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-13

Bio-Gas Boiler

Source Description

Heat is supplied to the steam-heated kilns through the use of a bio-gas fired boiler. The boiler is close coupled to a biomass gassifier that is fired with wood waste. The gassifier, in turn, produces the bio-gas which is used to fire the boiler. The rated capacity of this equipment is 60.0 MMBTU/hr. Emissions from this source are controlled through the use of a multi-cyclone and an electrostatic precipitator.

Specific Conditions

16. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Specific Condition #18. [Regulation No. 19 §19.501 *et seq.* effective January 25, 2009, and 40 CFR Part 52, Subpart E]

| Source No. | Pollutant | lb/hr | tpy |
|------------|------------------|-------|-------|
| 13 | PM ₁₀ | 4.8 | 21.1 |
| | SO ₂ | 1.5 | 6.6 |
| | VOC | 4.2 | 18.4 |
| | CO | 28.5 | 124.9 |
| | NO _x | 18.0 | 78.9 |

17. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Specific Condition #18. [Regulation No. 18 §18.801, effective January 25, 2009, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Source No. | Pollutant | lb/hr | tpy |
|------------|-------------------|----------|----------|
| 13 | PM | 4.8 | 21.1 |
| | Acetaldehyde | 0.01 | 0.03 |
| | Acrolein | 0.01 | 0.01 |
| | Cadmium | 0.01 | 0.01 |
| | Chromium | 0.01 | 0.01 |
| | Cumene | 0.01 | 0.01 |
| | Dibutyl Phthalate | 0.01 | 0.01 |
| | Formaldehyde | 0.03 | 0.09 |
| | HCl | 0.90 | 3.95 |
| | Hexane | 0.04 | 0.15 |
| | Lead | 0.01 | 0.01 |
| | Manganese | 0.07 | 0.30 |
| | Mercury | 8.00E-05 | 4.00E-04 |
| | Methanol | 0.09 | 0.40 |
| | Nickel | 0.01 | 0.02 |

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| Source No. | Pollutant | lb/hr | tpy |
|------------|-------------------|-------|------|
| 13 | PAH | 0.02 | 0.05 |
| | Phosphorus | 0.01 | 0.05 |
| | Trichloroethylene | 0.01 | 0.01 |

18. The permittee shall not fire in excess of 58,400 tons of wood waste in any consecutive twelve month period at source SN-13. The permittee may also combust small amounts of absorbent material used to clean up incidental, onsite oil spills. Absorbent material shall consist only of sawdust, wood chips, or commercially sold products made specifically for absorbing oil spills. [Regulation No. 19 §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
19. The permittee shall maintain monthly records that demonstrate compliance with the limits set in Specific Condition #18 which may be used by the Department for enforcement purposes. These records shall be updated by the fifteenth day of the month following the month to which the records pertain. The records shall be kept on site and shall be made available to Department personnel upon request. An annual total and each individual month's total wood waste combusted at SN-13 shall be submitted to the Department in accordance with General Provision #7. [Regulation No. 19 §19.705 and 40 CFR Part 52, Subpart E]
20. The permittee shall test SN-13 while operating at least at 90% capacity once every five years for carbon monoxide using EPA Reference Method 10. The tests shall be conducted in accordance with Plantwide Condition #3. [Regulation No. 19 §19.702 and 40 CFR Part 52, Subpart E]

NSPS Requirements

21. SN-13 is subject to and shall comply with applicable provisions of 40 CFR Part 60, Subpart Dc – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*. Applicable provisions of Subpart Dc include, but are not limited to, the following: [Regulation No. 19 §19.304 and 40 CFR §60.40c]
 - a. The permittee shall not discharge to the atmosphere any gases from SN-13 that contain particulate matter in excess of 0.10 lb/ MMBTU. [Regulation No. 19 §19.304 and 40 CFR 60.43c(b)(1)]
 - b. The permittee shall not exceed 20% opacity from source SN-13 as measured by EPA Reference Method 9 except for one 6-minute period per hour of not more than 27%. [Regulation No. 19 §19.304 and 40 CFR 60.43c(c)]
 - c. The particulate matter and opacity standards apply at all times, except during periods of startup, shutdown, or malfunctions. [Regulation No. 19 §19.304 and 40 CFR 60.43c(d)]

- d. The permittee shall install, calibrate, maintain, and operate a COMS for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The records shall be maintained onsite for at least two years and made available to Department personnel upon request. [Regulation No. 19 §19.304, 40 CFR 60.47c(a), and 40 CFR 60.48c(i)]
- e. The COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 (Appendix B to Part 60 – *Performance Specifications*). Compliance or non-compliance with the specifications set forth in Appendix B of 40 CFR Part 60 does not necessarily constitute compliance or non-compliance with the Department’s CEMS standards. [Regulation No. 19 §19.304 and 40 CFR 60.47c(b)]
- f. The permittee shall record any exceedances in opacity and submit excess emission reports for any excess emissions. The records shall be kept on site for at least two years. A report shall be submitted to the Department in accordance with General Provision #7. [Regulation No. 19 §19.304, 40 CFR 60.48c(c), and 40 CFR 60.48c(j)]
- g. The permittee shall maintain daily records of the wood residue combusted in SN-13. The records shall be kept on site for at least two years and made available to Department personnel upon request. [Regulation No. 19 §19.304, 40 CFR 60.48c(g), and 40 CFR 60.48c(i)]

CAM Requirements

- 22. Bio-Gas Boiler (SN-13) is subject to Compliance Assurance Monitoring and shall comply with all applicable provisions, including but not limited to: [Regulation No. 19 §19.703, 40 CFR Part 52 Subpart E, and Part §64.6]
 - a. The permittee shall maintain a COM at a location such that its readings are representative of the stack exhaust opacity. [Regulation No. 19 §19.703, 40 CFR Part 52 Subpart E, and 40 CFR Part §64.6(c)(1)]
 - b. The permittee shall maintain the indicator range on the COM to make readings of opacities between 0% and 100%. [Regulation No. 19 §19.703, 40 CFR Part 52 Subpart E, and 40 CFR Part §64.6(c)(1)]
 - c. The permittee shall maintain a data acquisition system that completes a minimum of one cycle of opacity sampling and analyzing for each successive 10 second period. The data shall be used to determine six-minute average opacity readings from the COM. An alarm (visible and/or audible) shall be triggered when a six minute reading is over 20%. If more than one six minute reading exceeds the opacity limit in a one hour period the permittee shall take immediate corrective action. The results of six minute readings shall be reduced to 24-hour block

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averages. Records of 24-hour averages as well as any one hour period requiring corrective action shall be kept onsite, updated daily, and made available to Department personnel upon request. [Regulation No. 19 §19.703, 40 CFR Part 52 Subpart E, and 40 CFR Part §64.6(c)(1)]

- d. The “rake-out” period shall be noted on the operator’s log and shall not be used to monitor compliance, nor to determine compliance with CAM requirements. [Regulation No. 19 § 19.703, 40 CFR Part 52 Subpart E, and 40 CFR Part §64.6(c)(3)]
- e. The rake-out period is to be scheduled for the same specific time each day and shall be recorded. The Department shall be notified in advance and in writing of the schedule or any changes. The process of soot blowing, grate cleaning, ash raking, and refiring or any part thereof is considered one activity, and the time limit on this activity is 45 minutes. This activity shall not be performed more than once in any consecutive 8 hour period, and it shall not be performed more than three times in any consecutive 24 hour period. [Regulation No. 18 §18.501(A)(4)]

SN-15

Gasoline Storage Tank

Source Description

SN-15 is a 2,000 gallon horizontal, above ground storage tank used to store gasoline.

Specific Conditions

23. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Specific Condition #25. [Regulation No. 19 §19.501 *et seq.* effective January 25, 2009, and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy |
|------------------|--------------|------------|
| VOC | 0.8 | 2.3 |

24. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition shall be demonstrated through compliance with Specific Condition #25. [Regulation No. 18 §18.801, effective January 25, 2009, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant | lb/hr | tpy |
|------------------|--------------|------------|
| Benzene | 0.04 | 0.12 |
| Cumene | 0.01 | 0.03 |
| Ethyl Benzene | 0.03 | 0.07 |
| Hexane | 0.04 | 0.12 |
| Naphthalene | 0.01 | 0.03 |
| Toluene | 0.12 | 0.35 |
| Xylene | 0.11 | 0.32 |

25. The permittee shall not receive more than 2,000 gallons in a 24-hour period of RVP 15 gasoline (or lower vapor pressure fuels) and shall not exceed an annual throughput of 135,000 gallons of gasoline from SN-15 in any 12-month rolling period. Gasoline (RVP 15 and lower vapor pressure fuels) shall be the only fuel stored in SN-15. [Regulation No. 19 §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
26. The permittee shall maintain records that demonstrate compliance limits in Specific Condition #25. These records shall be updated by the fifteenth day of the month following the month to which the records pertain. The records shall be kept on site and shall be made available to Department personnel upon request. An annual total and each individual month's gasoline throughput data shall be submitted to the Department in

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accordance with General Provision #7. [Regulation No. 19 §19.705, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-16

Planer Mill Shavings Handling

Source Description

Planer shavings are collected by a pneumatic conveying system and delivered to a storage bin. The shavings are then either loaded into trucks for shipment to consumers or diverted to the fuel preparation system, which processes the material for use as fuel in the direct-fired kilns or boiler. The pneumatic conveying system also serves the dry trim hog.

Specific Conditions

27. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Plantwide Condition #9. [Regulation No. 19 §19.501 *et seq.* effective January 25, 2009, and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy |
|------------------|--------------|------------|
| PM ₁₀ | 0.1 | 0.1 |

28. The permittee shall not exceed the emission rates set forth in the following table. The permittee will demonstrate compliance with the annual emission rates through compliance with Plantwide Condition #9. [Regulation No. 18 §18.801, effective January 25, 2009, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant | lb/hr | tpy |
|------------------|--------------|------------|
| PM | 9.9 | 9.9 |

SN-17 and SN-20

Haul Roads

Source Description

Various types of trucks and company vehicles travel throughout the plant on both paved (SN-17) and unpaved (SN-20) roads. Dust emissions are generated as a result of this traffic.

Specific Conditions

29. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition shall be demonstrated through compliance with Specific Condition #32. [Regulation No. 19 §19.501 *et seq.* effective January 25, 2009 and 40 CFR Part 52, Subpart E]

| Source No. | Pollutant | lb/hr | tpy |
|------------|------------------|-------|-----|
| 17 | PM ₁₀ | 0.3 | 0.8 |
| 20 | PM ₁₀ | 3.5 | 7.4 |

30. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition shall be demonstrated through compliance with Specific Condition #32. [Regulation No. 18 §18.801 effective January 25, 2009 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Source No. | Pollutant | lb/hr | tpy |
|------------|-----------|-------|------|
| 17 | PM | 1.3 | 4.0 |
| 20 | PM | 12.1 | 25.9 |

31. The silt loading for the paved roads shall not exceed 0.6 g/m². The permittee shall perform a one-time test within 180 days of the issuance of this permit (Permit No. 592-AOP-R7) to determine the silt loading of the paved roads (SN-17). The permittee shall use ASTM-C-136 and Appendix C.1 and C.2 of AP-42 for this test. [Regulation No. 19 §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
32. The permittee shall not exceed 23,858 vehicle miles traveled per consecutive twelve (12) month period for the paved roads at the facility. The permittee shall not exceed 23,210 vehicle miles traveled per consecutive twelve (12) month period for the unpaved roads at the facility. Compliance with this condition shall be demonstrated through compliance with Plantwide Condition #9. Any increase in the Plantwide Condition #9 shall require the permittee to recalculate emission limits and VMT limits. [Regulation No. 19 §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
33. The permittee shall develop and implement a Road Maintenance Plan (RMP) which is designed to maintain the particulate emissions from the roads at or below the limits listed

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in Specific Conditions #29 and #30. The RMP shall identify all measures taken by the permittee to ensure initial and continuous compliance. The results from the testing required by Specific Condition #31 shall be submitted within 30 days of the testing and shall be included in the RMP. A copy of the RMP shall be submitted within 90 days of the testing, and the RMP shall be kept onsite and be made available upon request by Department personnel. [Regulation No. 19 §19.705 and 40 CFR Part 52, Subpart E]

34. Any measure taken by the permittee which involves periodic application such as wet suppression or application of a surfactant, vacuuming, and/or sweeping shall be repeated when visible emissions from the roads can be observed but no less frequent than once a month. The permittee shall maintain a log of such applications, and the log shall be kept onsite and be made available to Department personnel upon request. [Regulation No. 19 §19.705 and 40 CFR Part 52, Subpart E]
35. The permittee shall not use any surfactant which contains VOC or HAP. The permittee shall include the MSDS for any surfactant applied to the roads at the facility in the RMP. [Regulation No. 19 §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

SN-19

Feed Water Pump

Source Description

The diesel fired feed water pump is used to supply water to the mill's boiler in the event of an emergency. The engine is tested up to 10 minutes on a weekly basis. The feed water pump is driven by a pre-2007 compression ignition internal combustion engine.

Specific Conditions

36. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition is based on the maximum capacity of the equipment for hourly rate and 500 hours of operation for annual rate. [Regulation No. 19 §19.501 *et seq.* effective January 25, 2009 and 40 CFR Part 52, Subpart E]

| Pollutant | lb/hr | tpy |
|------------------|--------------|------------|
| PM ₁₀ | 0.1 | 0.1 |
| SO ₂ | 0.1 | 0.1 |
| VOC | 0.1 | 0.1 |
| CO | 0.3 | 0.1 |
| NO _x | 0.3 | 0.1 |

37. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition is based on the maximum capacity of the equipment for hourly rate and 500 hours of operation for annual rate. [Regulation No. 18 §18.801 effective January 25, 2009 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Pollutant | lb/hr | tpy |
|------------------|--------------|------------|
| PM | 0.1 | 0.1 |

38. The permittee will maintain monthly records which demonstrate compliance with the annual hours of operation. The permittee will update the records by the fifteenth day of the month following the month to which the records pertain. The permittee will keep the records onsite, and make the records available to Department personnel upon request. [Regulation 19 §19.705 and 40 CFR Part 52, Subpart E]
39. The permittee shall comply with the applicable requirements of 40 CFR 63, Subpart ZZZZ – *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*. Pursuant to §63.6590 (c), compliance is demonstrated through compliance with the applicable requirements of 40 CFR Part 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. The applicable requirements of Subpart IIII include but are not

limited to the following: [Regulation 19, §19.304 and 40 CFR Part 63, Subpart ZZZZ and 40 CFR Part 60, Subpart IIII]

- a. There is no time limit on the use of emergency stationary ICE in emergency situations. 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. Anyone may petition the EPA 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. For owners and operators of emergency engines meeting standards under §60.4205 but not §60.4204, any operation other than emergency operation, and maintenance and testing as permitted in §60.4211, is prohibited. [Regulation No. 19 §19.304 and 40 CFR §60.4211 (e)]
- b. The permittee shall not discharge to the atmosphere any gases from SN-17 that contain the following pollutants in excess of the specified limits. Compliance with this condition shall be demonstrated through compliance with Specific Condition #39 (g). [Regulation No. 19 §19.304 and 40 CFR §60.4205 (a)]

| Pollutant | Emission Limit g/HP-hr |
|------------------------|---------------------------|
| PM | 0.60 |
| NMHC + NO _x | 7.1 |
| CO | 4.9 |

- c. The permittee, beginning October 1, 2007, shall only combust diesel fuel with a maximum sulfur content of 0.05% by weight and either a minimum centane index of 40 or a maximum aromatic content of 35% by volume. [Regulation No. 19 §19.304 and 40 CFR §60.4207 (a)]
- d. The permittee, beginning October 1, 2010, shall only combust diesel fuel with a maximum sulfur content of 0.0015% by weight and either a minimum centane index of 40 or a maximum aromatic content of 35% by volume. [Regulation No. 19 §19.304 and 40 CFR §60.4207 (b)]
- e. The permittee shall install a non-resettable hour meter prior to start up of any source subject to 40 CFR Part 60, Subpart IIII. [Regulation No. 19 §19.304 and 40 CFR §60.4209 (a)]
- f. The permittee shall operate and maintain the stationary IC internal combustion engine and control device according to the manufacturer's written instructions or

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procedures developed by the permittee that are approved by the engine manufacturer. In addition, permittee may only change those settings that are permitted by the manufacturer. [Regulation No. 19 §19.304 and 40 CFR §60.4211 (a)]

- g. The permittee shall demonstrate compliance with the emission standards listed in Specific Condition #39 (b) through one of the methods specified in paragraphs (b)(1) through (b)(5) of 40 CFR §60.4211 (b). [Regulation No. 19 §19.304 and 40 CFR §60.4211 (b)]
- h. The permittee shall record the time of operation of SN-17 and the reason source was in operation during that time. [Regulation No. 19 §19.304 and 40 CFR §60.4214 (b)]

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SECTION V: COMPLIANCE PLAN AND SCHEDULE

Deltic Timber Corporation - Ola Mill will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

SECTION VI: PLANTWIDE CONDITIONS

1. The permittee shall notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [Regulation 19, §19.704, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [Regulation 19, §19.410(B) and 40 CFR Part 52, Subpart E]
3. The permittee must test any equipment scheduled for testing, unless otherwise stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly 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) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. The permittee shall submit the compliance test results to the Department within thirty (30) days after completing the testing. [Regulation 19, §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
4. The permittee must provide:
 - 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.

[Regulation 19, §19.702 and/or Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [Regulation 19, §19.303 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation 26 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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7. The permittee shall not emit in excess of 298.9 tons of volatile organic compounds in any consecutive twelve month period from the four drying kilns located at this facility. Compliance with this condition will be determined through compliance with Plantwide Condition #9. [Regulation No. 19 §19.501 *et seq.* effective January 25, 2009, and 40 CFR Part 52, Subpart E]
8. Pine shall be the only wood processed through the lumber kilns at this facility. [Regulation No. 19 §19.705, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6]
9. The permittee shall not exceed combined kiln production of more than 165.0 million board feet in any consecutive twelve month period. [Regulation No. 19 §19.705, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6]
10. The permittee shall maintain records of the board feet of lumber processed in order to demonstrate compliance with Plantwide Condition #9 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site and shall be made available to Department personnel upon request. An annual total and each individual month's data shall be submitted to the Department in accordance with General Provision #7. [Regulation No. 19 §19.705 and 40 CFR Part 52, Subpart E]
11. 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 No. 18 §18.801]
12. The permittee shall not conduct operations in such a manner as to unnecessarily cause air contaminants and other pollutants from becoming airborne. [Regulation No. 18 §18.901]

Title VI Provisions

13. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 CFR Part 82, Subpart E]
 - a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.
 - b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
 - c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.

- d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
14. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 CFR Part 82, Subpart F]
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC like appliance" as defined at §82.152)
 - e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
 - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
15. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.
16. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.
- The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC 22 refrigerant.
17. The permittee can switch from any ozone depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G.

SECTION VII: INSIGNIFICANT ACTIVITIES

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of §26.304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated April 2, 2008.

| Description | Category |
|--|-----------------|
| 2,000 gallon Diesel Fuel Storage Tank | Group A, #3 |
| 100 gallon Portable Diesel Fuel Storage Tank | Group A, #3 |
| 550 Gallon Motor Oil Tank | Group A, #3 |
| 550 Gallon Hydraulic Oil Tank | Group A, #3 |
| Debarking Operations | Group A, #13 |
| Chipper Cyclone | Group A, #13 |
| Shavings Bin | Group A, #13 |
| Bark Hog | Group A, #13 |
| Sawdust Handling Operations | Group A, #13 |
| Fuel/Bark Storage Piles | Group A, #13 |
| Log Yard | Group A, #13 |
| Shavings/Chips/Sawdust Storage Piles | Group A, #13 |
| Spray Paint Activities | Group A, #13 |

SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which 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 which 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. [40 CFR 70.6(b)(2)]
2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 CFR 70.6(a)(2) and §26.701(B) of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26)]
3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Regulation 26, §26.406]
4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 CFR 70.6(a)(1)(ii) and Regulation 26, §26.701(A)(2)]
5. The permittee must maintain the following records of monitoring information as required by this permit.
 - a. The date, place as defined in this permit, and time of sampling or measurements;
 - b. The date(s) analyses performed;
 - c. The company or entity performing the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of such analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.

[40 CFR 70.6(a)(3)(ii)(A) and Regulation 26, §26.701(C)(2)]

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6. The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 CFR 70.6(a)(3)(ii)(B) and Regulation 26, §26.701(C)(2)(b)]
7. The permittee must submit reports of all required monitoring every six (6) months. If permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due within thirty (30) days of the end of the reporting period. Although the reports are due every six months, each report shall contain a full year of data. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Regulation No. 26, §26.2 must certify all required reports. The permittee will send the reports to the address below:

Arkansas Department of Environmental Quality
Air Division
ATTN: Compliance Inspector Supervisor
5301 Northshore Drive
North Little Rock, AR 72118-5317

[40 C.F.R. 70.6(a)(3)(iii)(A) and Regulation 26, §26.701(C)(3)(a)]

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.
 - a. For all upset conditions (as defined in Regulation 19, § 19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:
 - i. The facility name and location;
 - ii. The process unit or emission source deviating from the permit limit;
 - iii. The permit limit, including the identification of pollutants, from which deviation occurs;
 - iv. The date and time the deviation started;
 - v. The duration of the deviation;
 - vi. The average emissions during the deviation;
 - vii. The probable cause of such deviations;
 - viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future; and
 - ix. The name of the person submitting the report.

The permittee shall make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report.

- b. For all deviations, the permittee shall report such events in semi-annual reporting and annual certifications required in this permit. This includes all upset conditions reported in 8a above. The semi-annual report must include all the information as required by the initial and full reports required in 8a.

[Regulation 19, §19.601 and §19.602, Regulation 26, §26.701(C)(3)(b), and 40 CFR 70.6(a)(3)(iii)(B)]

- 9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [40 CFR 70.6(a)(5), Regulation 26, §26.701(E), and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
- 10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. §7401, et seq. and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 CFR 70.6(a)(6)(i) and Regulation 26, §26.701(F)(1)]
- 11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 CFR 70.6(a)(6)(ii) and Regulation 26, §26.701(F)(2)]
- 12. The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 70.6(a)(6)(iii) and Regulation 26, §26.701(F)(3)]
- 13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 70.6(a)(6)(iv) and Regulation 26, §26.701(F)(4)]

14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 CFR 70.6(a)(6)(v) and Regulation 26, §26.701(F)(5)]
15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 CFR 70.6(a)(7) and Regulation 26, §26.701(G)]
16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 CFR 70.6(a)(8) and Regulation 26, §26.701(H)]
17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 CFR 70.6(a)(9)(i) and Regulation 26, §26.701(I)(1)]
18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 CFR 70.6(b) and Regulation 26, §26.702(A) and (B)]
19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Regulation 26, §26.2. [40 CFR 70.6(c)(1) and Regulation 26, §26.703(A)]
20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 CFR 70.6(c)(2) and Regulation 26, §26.703(B)]
 - a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

- d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.
21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually within 30 days following the last day of the anniversary month of the initial Title V permit. The permittee must also submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [40 CFR 70.6(c)(5) and Regulation 26, §26.703(E)(3)]
- a. The identification of each term or condition of the permit that is the basis of the certification;
 - b. The compliance status;
 - c. Whether compliance was continuous or intermittent;
 - d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
 - e. Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and §504(b) of the Act.
22. Nothing in this permit will alter or affect the following: [Regulation 26, §26.704(C)]
- a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
 - b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
 - c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act; or
 - d. The ability of EPA to obtain information from a source pursuant to §114 of the Act.
23. This permit authorizes only those pollutant emitting activities addressed in this permit. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
24. 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, §18.102(C-D), Regulation 19, §19.103(D), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and CFR Part 52, Subpart E]

25. 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 facility's 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, §18.102(C-D), Regulation 19, §19.103(D), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and CFR Part 52, Subpart E]

26. 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, §18.102(C-D), Regulation 19, §19.103(D), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and CFR Part 52, Subpart E]

Appendix A

40 CFR Part 60, Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

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Electronic Code of Federal Regulations

e-CFR
TM

e-CFR Data is current as of January 23, 2009

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Source: 72 FR 32759, June 13, 2007, unless otherwise noted.

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraph (d) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, §60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO₂) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in §60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under §60.14.

(e) Heat recovery steam generators that are associated with combined cycle gas turbines and meet the applicability requirements of subpart GG or KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/hr) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/hr) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part).

(f) Any facility covered by subpart AAAA of this part is not covered by this subpart.

(g) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not covered by this subpart.

§ 60.41c Definitions.

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

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.* , the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrosulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO₂ control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under §60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced

upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means: (1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO₂ emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Wet flue gas desulfurization technology means an SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO₂.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

§ 60.42c Standard for sulfur dioxide (SO₂).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO₂ emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO₂ emissions limit or the 90 percent SO₂ reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO₂ emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 50 percent (0.50) of the potential SO₂ emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO₂ reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/hr) or less.

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area.

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/MMBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the following:

(1) The percent of potential SO₂ emission rate or numerical SO₂ emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;

(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/hr); and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

E_s = SO₂ emission limit, expressed in ng/J or lb/MMBtu heat input;

K_a = 520 ng/J (1.2 lb/MMBtu);

K_b = 260 ng/J (0.60 lb/MMBtu);

K_c = 215 ng/J (0.50 lb/MMBtu);

H_a = Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H_b = Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and

H_c K_a H_b = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO₂ emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO₂ emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO₂ control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(i) The SO₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

§ 60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under §60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO₂ emissions is not subject to the PM limit in this section.

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and §60.8(b), performance tests required under §60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under §60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO₂ emission limits under §60.42c shall be determined using a 30-day average. The first operating day

included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and §60.8, compliance with the percent reduction requirements and SO₂ emission limits under §60.42c is based on the average percent reduction and the average SO₂ emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO₂ emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO₂ emission rate (E_{ho}) and the 30-day average SO₂ emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate E_{ao} when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E_{ho} ($E_{ho,o}$) is used in Equation 19–19 of Method 19 of appendix A of this part to compute the adjusted E_{ao} ($E_{ao,o}$). The $E_{ho,o}$ is computed using the following formula:

$$E_{ho,o} = \frac{E_{ho} - E_w(1 - X_k)}{X_k}$$

Where:

$E_{ho,o}$ = Adjusted E_{ho} , ng/J (lb/MMBtu);

E_{ho} = Hourly SO₂ emission rate, ng/J (lb/MMBtu);

E_w = SO₂ concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume $E_w = 0$.

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of §60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters E_w or X_k if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under §60.42c(a) or (b) shall determine compliance with the SO₂ emission limits under §60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO₂ emission rate is computed using the following formula:

$$\%P_s = 100 \left(1 - \frac{\%R_g}{100} \right) \left(1 - \frac{\%R_f}{100} \right)$$

Where:

$\%P_s$ = Potential SO_2 emission rate, in percent;

$\%R_g$ = SO_2 removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$ = SO_2 removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the $\%P_s$, an adjusted $\%R_g$ ($\%R_{g,o}$) is computed from $E_{a,o}$ from paragraph (e)(1) of this section and an adjusted average SO_2 inlet rate ($E_{a,i,o}$) using the following formula:

$$\%R_{g,o} = 100 \left(1 - \frac{E_{w,o}}{E_{a,i,o}} \right)$$

Where:

$\%R_{g,o}$ = Adjusted $\%R_g$, in percent;

$E_{a,o}$ = Adjusted $E_{a,o}$, ng/J (lb/MMBtu); and

$E_{a,i,o}$ = Adjusted average SO_2 inlet rate, ng/J (lb/MMBtu).

(ii) To compute $E_{a,i,o}$, an adjusted hourly SO_2 inlet rate ($E_{h,i,o}$) is used. The $E_{h,i,o}$ is computed using the following formula:

$$E_{h,i,o} = \frac{E_{h,i} - E_w(1 - X_1)}{X_1}$$

Where:

$E_{h,i,o}$ = Adjusted $E_{h,i}$, ng/J (lb/MMBtu);

$E_{h,i}$ = Hourly SO_2 inlet rate, ng/J (lb/MMBtu);

E_w = SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume $E_w = 0$; and

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under §60.46c(d)(2).

(h) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel supplier, as described under §60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO₂ standards under §60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO₂ emissions data in calculating %P_s and E_{ho} under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under §60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating %P_s or E_{ho} pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under §60.43c shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3 of appendix A of this part shall be used for gas analysis when applying Method 5, 5B, or 17 of appendix A of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ± 14 °C (320 ± 25 °F).

(6) For determination of PM emissions, an oxygen (O₂) or carbon dioxide (CO₂) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O₂ or CO₂ measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A of this part (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under §60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with EPA Reference Method 5, 5B, or 17 of appendix A of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using EPA Method 5, 5B, or 17 of appendix A of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(13) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block)

average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (d)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (d)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (d)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O₂(or CO₂) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraph (d)(7)(i) of this section.

(i) For PM, EPA Reference Method 5, 5B, or 17 of appendix A of this part shall be used.

(ii) For O₂(or CO₂), EPA reference Method 3, 3A, or 3B of appendix A of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(4) shall follow the applicable procedures under §60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/hr).

§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO₂ emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO₂ concentrations and either O₂ or CO₂ concentrations at the outlet of the SO₂ control device (or the outlet of the steam generating unit if no SO₂ control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under §60.42c shall measure SO₂ concentrations and either O₂ or CO₂ concentrations at both the inlet and outlet of the SO₂ control device.

(b) The 1-hour average SO₂ emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.42c. Each 1-hour average SO₂ emission rate must be based on at least 30 minutes of operation, and shall be

calculated using the data points required under §60.13(h)(2). Hourly SO₂ emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under §60.42c, the span value of the SO₂ CEMS at the inlet to the SO₂ control device shall be 125 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted, and the span value of the SO₂ CEMS at the outlet from the SO₂ control device shall be 50 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of §60.42c, the span value of the SO₂ CEMS at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) shall be 125 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according to the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO₂ input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO₂ at the inlet or outlet of the SO₂ control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO₂ and CO₂ measurement train operated at the candidate location and a second similar train operated according to the procedures in §3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part,

Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to §60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, as described under §60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§ 60.47c Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under §60.43c shall install, calibrate, maintain, and operate a COMS for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system.

(b) All COMS for measuring opacity shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.06 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO₂ or PM emissions are not required to operate a CEMS for measuring opacity if they follow the applicable procedures under §60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS monitor instead of monitoring opacity must calibrate, maintain, and operate a CEMS, and record the output of the system, for PM emissions discharged to the atmosphere as specified in §60.45c(d). The CEMS specified in paragraph §60.45c(d) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) An affected facility that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO₂, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS for measuring opacity. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section.

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. At least two data points per hour must be used to calculate each 1-hour average.

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) An affected facility that burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the appropriate delegated permitting authority is not required to operate a COMS for measuring opacity. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO₂ emission limits of §60.42c, or the PM or opacity limits of §60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) The owner or operator of each coal-fired, oil-fired, or wood-fired affected facility subject to the opacity limits under §60.43c(c) shall submit excess emission reports for any excess emissions from the affected

facility that occur during the reporting period.

(d) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO₂ emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO₂ emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO₂ or diluent (O₂ or CO₂) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and

(iii) The sulfur content of the oil.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO₂ standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO₂ standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under §60.42c or §60.43c shall calculate the

annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

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Appendix B

40 CFR Part 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition
Internal Combustion Engines*

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Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Source: 71 FR 39172, July 11, 2006, unless otherwise noted.

What This Subpart Covers

§ 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (3) 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 CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

- (i) 2007 or later, for engines that are not fire pump engines,
- (ii) The model year listed in table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005 where the stationary CI ICE are:

- (i) Manufactured after April 1, 2006 and are not fire pump engines, or
- (ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE 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 applicable to area sources.

(d) Stationary CI 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 part 89, subpart J and 40 CFR part 94, subpart J, 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.

Emission Standards for Manufacturers

§ 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power.

§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a

displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power.

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

§ 60.4203 How long must my engines meet the emission standards if I am a stationary CI internal combustion engine manufacturer?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§60.4201 and 60.4202 during the useful life of the engines.

Emission Standards for Owners and Operators

§ 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in paragraphs (c)(1) and (2) of this section.

(1) Reduce nitrogen oxides (NO_x) emissions by 90 percent or more, or limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to 1.6 grams per KW-hour (g/KW-hr) (1.2 grams per HP-hour (g/HP-hr)).

(2) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in paragraphs (d)(1) and (2) of this section.

(1) Reduce NO_x emissions by 90 percent or more, or limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to 1.6 grams per KW-hour (1.2 grams per HP-hour).

(2) Reduce PM emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.

Fuel Requirements for Owners and Operators

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

(c) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

(d) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the Federal Aid Highway System may petition the Administrator for approval to use any fuels mixed with used lubricating oil that do not meet the fuel requirements of paragraphs (a) and (b) of this section. Owners and operators must demonstrate in their petition to the Administrator that there is no other place to use the lubricating oil. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

(e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.

Other Requirements for Owners and Operators

§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in the previous model year?

- (a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.
- (b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.
- (c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.
- (d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.
- (e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.
- (f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.
- (g) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (f) of this section after the dates specified in paragraphs (a) through (f) of this section.
- (h) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

- (a) If you are an owner or operator of an emergency stationary CI internal combustion engine, you must install a non-resettable hour meter prior to startup of the engine.
- (b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

Compliance Requirements

§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

- (a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §60.4201(a) through (c) and §60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines

with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §60.4201(d) and §60.4202(c) using the certification procedures required in 40 CFR part 94 subpart C, and must test their engines as specified in 40 CFR part 94.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 40 CFR 1039.125, 40 CFR 1039.130, 40 CFR 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89 or 40 CFR part 94 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in part 89, 94 or 1039, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in part 89, 94 or 1039, as appropriate, but the words "stationary" must be included instead of "nonroad" or "marine" on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines 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.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under parts 89, 94, or 1039 for that model year may certify any

such family that contains both nonroad (including marine) 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.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words "and stationary" after the word "nonroad" or "marine," as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in §60.4202 but does not meet all the emission standards for non-emergency engines in §60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as "Fire Pump Applications Only".

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §§60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. You must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. 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.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204 (c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and NO_x and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_x and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

(e) 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. Anyone 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. For owners and operators of emergency engines meeting standards under §60.4205 but not §60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited.

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than

30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (d) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \quad (\text{Eq. 1})$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (d) of this section.

(a) Each performance test must be conducted according to the requirements in §60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c).

(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 last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 2})$$

Where:

C_i = concentration of NO_x or PM at the control device inlet,

C_o = concentration of NO_x or PM at the control device outlet, and

R = percent reduction of NO_x or PM emissions.

(2) You must normalize the NO_x or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO_2) using the procedures described in paragraph (d)(3) of this section.

$$C_{\text{adj}} = C_i \frac{5.9}{20.9 - \% \text{O}_2} \quad (\text{Eq. 3})$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_i = Measured concentration of NO_x or PM, uncorrected.

5.9 = 20.9 percent O_2 - 15 percent O_2 , the defined O_2 correction value, percent.

$\% \text{O}_2$ = Measured O_2 concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O_2 and CO_2 concentration is measured in lieu of O_2 concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209 H}{F_c} \quad (\text{Eq. 4})$$

Where:

F_o = Fuel factor based on the ratio of O_2 volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2 , percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dm^3 / J ($dscf/10^6$ Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dm^3 / J ($dscf/10^6$ Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad (\text{Eq. 5})$$

Where:

X_{CO_2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 - 15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the NO_x and PM gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (\text{Eq. 6})$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

$\%CO_2$ = Measured CO_2 concentration, dry basis, percent.

(e) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{KW\text{-hour}} \quad (\text{Eq. 7})$$

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_x concentration in ppm.

1.912×10^{-3} = Conversion constant for ppm NO_x to grams per standard cubic meter at 25

degrees Celsius.

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

T = Time of test run, in hours.

KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$ER = \frac{C_{adj} \times Q \times T}{KW-hour} \quad (Eq. 8)$$

Where:

ER = Emission rate in grams per KW-hour.

C_{adj} = Calculated PM concentration in grams per standard cubic meter.

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

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

Notification, Reports, and Records for Owners and Operators

§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

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

(ii) The address of the affected source;

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

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

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

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

Special Requirements

§ 60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §60.4205. Non-emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder, must meet the applicable emission standards in §60.4204(c).

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in §60.4207.

§ 60.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI engines located in areas of Alaska not accessible by the Federal Aid Highway System should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) The Governor of Alaska may submit for EPA approval, by no later than January 11, 2008, an alternative plan for implementing the requirements of 40 CFR part 60, subpart IIII, for public-sector electrical utilities located in rural areas of Alaska not accessible by the Federal Aid Highway System. This alternative plan must be based on the requirements of section 111 of the Clean Air Act including any increased risks to human health and the environment and must also be based on the unique circumstances related to remote power generation, climatic conditions, and serious economic impacts resulting from implementation of 40 CFR part 60, subpart IIII. If EPA approves by rulemaking process an alternative plan, the provisions as approved by EPA under that plan shall apply to the diesel engines used in new stationary internal combustion engines subject to this paragraph.

§ 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

(a) Owners and operators of stationary CI ICE that do not use diesel fuel, or who have been given authority by the Administrator under §60.4207(d) of this subpart to use fuels that do not meet the fuel requirements of paragraphs (a) and (b) of §60.4207, may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in §60.4202 or §60.4203 using such fuels.

(b) [Reserved]

General Provisions

§ 60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

Definitions

§ 60.4219 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.

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.

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.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

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 CI 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.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Manufacturer has the meaning given in section 216(1) of the 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 sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means either:

- (1) The calendar year in which the engine was originally produced, or
- (2) The annual new model production period of the engine manufacturer if it is different than the calendar year. This must include 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. 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 originally produced.

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.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

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 a gasoline, natural gas, or liquefied petroleum gas 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 CI 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)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

Useful 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 useful life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for useful life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007–2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

| Maximum engine power | Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007–2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr) | | | | |
|------------------------|--|----|-----------------|-----------|-------------|
| | NMHC + NO _x | HC | NO _x | CO | PM |
| KW<8 (HP<11) | 10.5 (7.8) | | | 8.0 (6.0) | 1.0 (0.75) |
| 8≤KW<19 (11≤HP<25) | 9.5 (7.1) | | | 6.6 (4.9) | 0.80 (0.60) |
| 19≤KW<37 (25≤HP<50) | 9.5 (7.1) | | | 5.5 (4.1) | 0.80 (0.60) |

| | | | | | |
|------------------------------------|--|-----------|-----------|------------|-------------|
| 37 ≤ KW < 56 (50 ≤ HP < 75) | | | 9.2 (6.9) | | |
| 56 ≤ KW < 75 (75 ≤ HP < 100) | | | 9.2 (6.9) | | |
| 75 ≤ KW < 130 (100 ≤ HP < 175) | | | 9.2 (6.9) | | |
| 130 ≤ KW < 225 (175 ≤ HP < 300) | | 1.3 (1.0) | 9.2 (6.9) | 11.4 (8.5) | 0.54 (0.40) |
| 225 ≤ KW < 450 (300 ≤ HP < 600) | | 1.3 (1.0) | 9.2 (6.9) | 11.4 (8.5) | 0.54 (0.40) |
| 450 ≤ KW ≤ 560 (600 ≤ HP ≤ 750) | | 1.3 (1.0) | 9.2 (6.9) | 11.4 (8.5) | 0.54 (0.40) |
| KW > 560 (HP > 750) | | 1.3 (1.0) | 9.2 (6.9) | 11.4 (8.5) | 0.54 (0.40) |

Table 2 to Subpart III of Part 60—Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

[As stated in §60.4202(a)(1), you must comply with the following emission standards]

| Engine power | Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr) | | | |
|--------------------------------|---|------------------------|-----------|-------------|
| | Model year(s) | NO _x + NMHC | CO | PM |
| KW < 8 (HP < 11) | 2008+ | 7.5 (5.6) | 8.0 (6.0) | 0.40 (0.30) |
| 8 ≤ KW < 19 (11 ≤ HP < 25) | 2008+ | 7.5 (5.6) | 6.6 (4.9) | 0.40 (0.30) |
| 19 ≤ KW < 37 (25 ≤ HP < 50) | 2008+ | 7.5 (5.6) | 5.5 (4.1) | 0.30 (0.22) |

Table 3 to Subpart III of Part 60—Certification Requirements for Stationary Fire Pump Engines

[As stated in §60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:]

| Engine power | Starting model year engine manufacturers must certify new stationary fire pump engines according to §60.4202(d) |
|-------------------------|---|
| KW<75 (HP<100) | 2011 |
| 75≤KW<130 (100≤HP<175) | 2010 |
| 130≤KW≤560 (175≤HP≤750) | 2009 |
| KW>560 (HP>750) | 2008 |

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

| Maximum engine power | Model year(s) | NMHC + NO _x | CO | PM |
|-------------------------|--------------------|------------------------|-----------|-------------|
| KW<8 (HP<11) | 2010 and earlier | 10.5 (7.8) | 8.0 (6.0) | 1.0 (0.75) |
| | 2011+ | 7.5 (5.6) | | 0.40 (0.30) |
| 8≤KW<19 (11≤HP<25) | 2010 and earlier | 9.5 (7.1) | 6.6 (4.9) | 0.80 (0.60) |
| | 2011+ | 7.5 (5.6) | | 0.40 (0.30) |
| 19≤KW<37 (25≤HP<50) | 2010 and earlier | 9.5 (7.1) | 5.5 (4.1) | 0.80 (0.60) |
| | 2011+ | 7.5 (5.6) | | 0.30 (0.22) |
| 37≤KW<56 (50≤HP<75) | 2010 and earlier | 10.5 (7.8) | 5.0 (3.7) | 0.80 (0.60) |
| | 2011+ ¹ | 4.7 (3.5) | | 0.40 (0.30) |
| 56≤KW<75 (75≤HP<100) | 2010 and earlier | 10.5 (7.8) | 5.0 (3.7) | 0.80 (0.60) |
| | 2011+ ¹ | 4.7 (3.5) | | 0.40 (0.30) |
| 75≤KW<130 (100≤HP<175) | 2009 and earlier | 10.5 (7.8) | 5.0 (3.7) | 0.80 (0.60) |
| | 2010+ ² | 4.0 (3.0) | | 0.30 (0.22) |
| 130≤KW<225 (175≤HP<300) | 2008 and earlier | 10.5 (7.8) | 3.5 (2.6) | 0.54 (0.40) |

| | | | | |
|-------------------------|--------------------|------------|--------------|----------------|
| | 2009+ ³ | 4.0 (3.0) | | 0.20 (0.15) |
| 225≤KW<450 (300≤HP<600) | 2008 and earlier | 10.5 (7.8) | 3.5 (2.6) | 0.54 (0.40) |
| | 2009+ ³ | 4.0 (3.0) | | 0.20 (0.15) |
| 450≤KW≤560 (600≤HP≤750) | 2008 and earlier | 10.5 (7.8) | 3.5 (2.6) | 0.54 (0.40) |
| | 2009+ | 4.0 (3.0) | | 0.20 (0.15) |
| KW>560 (HP>750) | 2007 and earlier | 10.5 (7.8) | 3.5 (2.6) | 0.54 (0.40) |
| | 2008+ | 6.4 (4.8) | | 0.20 (0.15) |

¹For model years 2011–2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

²For model years 2010–2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

³In model years 2009–2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in §60.4210(f) and the recordkeeping requirements in §60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

| Engine power | Starting model year |
|-----------------------|---------------------|
| 19≤KW<56 (25≤HP<75) | 2013 |
| 56≤KW<130 (75≤HP<175) | 2012 |
| KW≥130 (HP≥175) | 2011 |

Table 6 to Subpart IIII of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in §60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

| Mode No. | Engine speed ¹ | Torque (percent) ² | Weighting factors |
|----------|---------------------------|-------------------------------|-------------------|
| 1 | Rated | 100 | 0.30 |
| 2 | Rated | 75 | 0.50 |

| | | | |
|---|-------|----|------|
| 3 | Rated | 50 | 0.20 |
|---|-------|----|------|

¹Engine speed: ± 2 percent of point.

²Torque: NFPA certified nameplate HP for 100 percent point. All points should be ± 2 percent of engine percent load value.

Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥ 30 Liters per Cylinder

[As stated in §60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥ 30 liters per cylinder:]

| For each | Complying with the requirement to | You must | Using | According to the following requirements |
|--|---|---|---|---|
| 1. Stationary CI internal combustion engine with a displacement of ≥ 30 liters per cylinder | a. Reduce NO_x emissions by 90 percent or more | 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) Sampling sites must be located at the inlet and outlet of the control device. |
| | | ii. Measure O_2 at the inlet and outlet of the control device; | (2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A | (b) Measurements to determine O_2 concentration must be made at the same time as the measurements for NO_x concentration. |
| | | iii. If necessary, measure moisture content at the inlet and outlet of the control device; and, | (3) 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 §60.17) | (c) Measurements to determine moisture content must be made at the same time as the measurements for NO_x concentration. |
| | | iv. Measure NO_x at the inlet and outlet of the | (4) Method 7E of 40 CFR part 60, | (d) NO_x concentration must be at 15 |

| | | | | |
|--|--|---|---|--|
| | | control device | appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17) | percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |
| | b. Limit the concentration of NO _x in the stationary CI 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 ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location; and, | (2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A | (b) Measurements to determine O ₂ concentration must be made at the same time as the measurement for NO _x concentration. |
| | | iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and, | (3) 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 §60.17) | (c) Measurements to determine moisture content must be made at the same time as the measurement for NO _x concentration. |
| | | iv. Measure NO _x at the exhaust of the stationary internal combustion engine | (4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, | (d) NO _x concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of |

| | | | | |
|--|--|--|---|--|
| | | | appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17) | the average of the three 1-hour or longer runs. |
| | c. Reduce PM emissions by 60 percent or more | 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) Sampling sites must be located at the inlet and outlet of the control device. |
| | | ii. Measure O ₂ at the inlet and outlet of the control device; | (2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A | (b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for PM concentration. |
| | | iii. If necessary, measure moisture content at the inlet and outlet of the control device; and | (3) Method 4 of 40 CFR part 60, appendix A | (c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration. |
| | | iv. Measure PM at the inlet and outlet of the control device | (4) Method 5 of 40 CFR part 60, appendix A | (d) PM concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |
| | d. Limit the concentration of PM in the stationary CI 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 ₂ concentration | (2) Method 3, 3A, or 3B of 40 CFR | (b) Measurements to determine O ₂ concentration |

| | | | | |
|--|--|---|--|--|
| | | of the stationary internal combustion engine exhaust at the sampling port location; and | part 60, appendix A | must be made at the same time as the measurements for PM concentration. |
| | | iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and | (3) Method 4 of 40 CFR part 60, appendix A | (c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration. |
| | | iv. Measure PM at the exhaust of the stationary internal combustion engine | (4) Method 5 of 40 CFR part 60, appendix A | (d) PM concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |

Table 8 to Subpart IIII of Part 60—Applicability of General Provisions to Subpart IIII

[As stated in §60.4218, you must comply with the following applicable General Provisions:]

| General Provisions citation | Subject of citation | Applies to subpart | Explanation |
|------------------------------------|---|---------------------------|---------------------------------------|
| §60.1 | General applicability of the General Provisions | Yes | |
| §60.2 | Definitions | Yes | Additional terms defined in §60.4219. |
| §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 §60.4214(a). |
| §60.8 | Performance tests | Yes | Except that §60.8 only applies to stationary CI ICE with a displacement of (≥ 30 liters per cylinder and engines that are not certified. |
| §60.9 | Availability of information | Yes | |
| §60.10 | State Authority | Yes | |
| §60.11 | Compliance with standards and maintenance requirements | No | Requirements are specified in subpart IIII. |
| §60.12 | Circumvention | Yes | |
| §60.13 | Monitoring requirements | Yes | Except that §60.13 only applies to stationary CI ICE with a displacement of (≥ 30 liters per cylinder. |
| §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 | |

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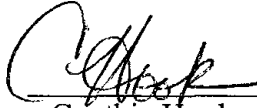
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CERTIFICATE OF SERVICE

I, Cynthia Hook, hereby certify that a copy of this permit has been mailed by first class mail to Deltic Timber Corporation - Ola Mill, P.O. Box 129, Ola, AR, 72853, on this 30th day of March, 2009.



Cynthia Hook, AAIL, Air Division