ADEQ

ARKANSAS
Department of Environmental Quality

AUG 3 1 2015

Lenore Trammell, Chief, Compliance Officer
Big River Steel LLC
1425 Ohlendorf Road
Osceola, AR 72370

Dear Mr. Trammell:

The enclosed Permit No. 2305-AOP-R1 is your authority to construct, operate, and maintain the equipment and/or control apparatus as set forth in your application initially received on 7/23/2015.

After considering the facts and requirements of A.C.A. §8-4-101 et seq. as referenced by §8-4-304, and implementing regulations, I have determined that Permit No. 2305-AOP-R1 for the construction and operation of equipment at Big River Steel LLC shall be issued and effective on the date specified in the permit, unless a Commission review has been properly requested under Arkansas Department of Pollution Control & Ecology Commission's Administrative Procedures, Regulation 8, within thirty (30) days after service of this decision.

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

Sincerely,

Stuart Spencer
Chief, Air Division

Enclosure: Final Permit

ADEQ
OPERATING
AIR PERMIT

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

Permit No. : 2305-AOP-R1

IS ISSUED TO:

Big River Steel LLC
2027 E. State Hwy 198
Osceola, AR 72370
Mississippi County
AFIN: 47-00991

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:

September 18, 2013 AND September 17, 2018

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

Signed:

AUG 3 1 2015

Stuart Spencer
Chief, Air Division

Date

Big River Steel LLC
Permit #: 2305-AOP-R1
AFIN: 47-00991

Table of Contents

List of Acronyms and Abbreviations

Ark. Code Ann.	Arkansas Code Annotated
AFIN	ADEQ Facility Identification Number
C.F.R.	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

SECTION I: FACILITY INFORMATION

PERMITTEE:	Big River Steel LLC
AFIN:	47-00991
PERMIT NUMBER:	2305-AOP-R1
FACILITY ADDRESS:	2027 E. State Hwy 198 Osceola, AR 72370
MAILING ADDRESS:	1425 Ohlendorf Road Osceola, AR 72370
COUNTY:	Mississippi County
CONTACT NAME:	Lenore Trammell
CONTACT POSITION:	Chief, Compliance Officer
TELEPHONE NUMBER:	(870) 819-3031
REVIEWING ENGINEER:	Jesse Smith
UTM North South (Y):	Zone 16: 3949595.58 m
UTM East West (X):	Zone 16: 232531.87 m

SECTION II: INTRODUCTION

Summary of Permit Activity

Big River Steel, LLC owns and operates a steel mill located at 2027 E. State Hwy 198 in Osceola, AR. This permitting action is necessary to add four insignificant activities to the permit. There are no changes to the permitted emission rates.

Process Description

The facility will consist of two Electric Arc Furnaces to melt scrap iron and steel, Ladle Metallurgy Furnaces (LMF) to adjust the chemistry, a RH Degasser and boiler for further refinement, and Casters.

The facility will also include:

- Ladle Preheaters, Ladle Dryout Heaters, Vertical Ladle Holding Station, and Tundish Preheaters.
- A Pickling Line to clean steel coil of its rust, dirt and oil.
- Galvanizing Lines to produce galvanized strips.
- Annealing Furnaces.
- A Decarburizing Line to reduce the carbon content at intermediate strip thickness.
- A Reversing Cold Mill to reduce the thickness of the steel to the desired specifications.
- An Annealing Pickling Line.
- An Annealing Coating Line for annealing of the cold rolled steel strip and application of an insulating coating.
- MgO Coating Lines to apply magnesia to the strip steel surface.
- Final Annealing and Coating Lines to coat the steel strip with an insulation layer and subsequent flatness improvements.
- Emergency generators, cooling towers and other miscellaneous source.

Specifics on each operation are found in the Specific Condition section.

Prevention of Significant Deterioration

Big River Steel is classified as a new major source under Prevention of Significant Deterioration (PSD) regulations. Due to the proposed emission rates, PSD review is required for NO_X, CO, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, lead, and greenhouse gasses.

An applicant for a Prevention of Significant Deterioration (PSD) permit is required to conduct an air quality analysis of the ambient impacts associated with the construction and operation of the proposed new source or modification. The primary purpose of the air quality analysis is to demonstrate that new emissions emitted from a major stationary source, in conjunction with other applicable emissions from existing sources (including secondary emissions from growth associated with the new project), will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or PSD increment.

PSD modeling is performed in two stages: the significance analysis and the full impact analysis. The significance analysis considers the net emissions change associated with PSD affected emissions units to determine if the increased emissions will have a significant impact upon the surrounding area. If the results of the significance analysis are below the corresponding Modeling Significance Levels, the full impact analysis is not required. A summary of the results of the significance analysis is in the table below.

Pollutant	**Averaging Period**	**Modeled Concentration ($\mu g/m^3$)**	**Significance Level ($\mu g/m^3$)**
CO	1 – hour	296	2,000
	8 – hour	137	500
PM_{10}	24 – hour	14.1	5
	Annual	2.6	1.0
$PM_{2.5}$	24 – hour	9.1	1.2
	Annual	2.53	0.3
SO_2	1 – Hour	25.1	7.8
	3 – Hour	6.1	25
	24 – Hour	5.9	5
	Annual	0.6	1.0
NO_2	Annual	188	1.0
	1 – hour	6.7	7.52

Full impact analysis required for $PM_{2.5}$, PM_{10}, SO_2, and NO_2. The full impact analysis modeling must show that the emissions from the facility and surrounding existing sources will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or PSD increment. The PM_{10} 24-hour increment modeling predicted exceedances of the increment for all sources. However, on the days where the modeling predicted an increment exceedance the contribution from Big River Steel was below the significance level. The following table shows the results of the PSD increment modeling.

Pollutant	Averaging Period	Maximum Predicted Increment Consumption (μg/m^3)	PSD Class II Increment (μg/m^3)	Percent of Class II Increment (%)
PM_{10}	24 – hour	The facility is below the SIL on any day over the Increment.	30	<100%
	Annual	12	17	70.5
SO_2	3 – Hour	30.8	512	6.0
	24 – Hour	11.5	91	12.6
NO_2	Annual	5.9	25	23.6
$PM_{2.5}$	24 – hour	7.3	9	81.1
	Annual	2.53	4	63.3

Arkansas Regulation 19 requires that if the issuance of a permit for any major stationary source or any major modification would result in the consumption of more than fifty percent of the available annual increment or eighty percent of any short term increment, the person applying for such a permit shall submit to the Department an assessment of the effects that the proposed consumption would have upon the industrial and economic development within the area of the proposed source and the alternatives to such consumption including alternate siting of the proposed source. To address this requirement Big River submitted the following.

As stated in Arkansas Regulation 19.904, subsection (c) (1), where air quality impact analysis required under this subpart indicated that the issuance of a permit for any major stationary source or for any major modification would result in the consumption of more than fifty (50%) of any available annual increment or eighty percent (80%) of any short term increment, the person applying for such a permit shall submit to the Department an assessment of the following factors:

(a) Effect that the proposed consumption would have upon the industrial and economic development within the area of the proposed sources; and
(b) Alternatives to such consumption, including alternative siting of the proposed source or portion thereof.

The proposed BRS plant project will have potential emission in an by itself that will be well below 80% of the Class II increment. Combined impacts from BRS and other increment consuming sources have shown predicted concentrations to exceed 30 μg/m^3, however BRS impacts on those predicted concentration have been shown to be at or below significant impact levels. The specific point of predicted concentrations typically reside within close proximity of a facility or in the case of the proposed project along the facility property boundary or with a relative short distance of that boundary. Since the predicted concentration is representative of time and space, future growth in the area should not be limited. It is highly unlikely that future growth will take place near or in close proximity to the BRS property or an existing facilities property. For any future project going through PSD review a separate analysis will be required as part of that application process and primary point of increment consumption will also be based on time and space and will most likely occur in the immediate vicinity of that source as well.

BRS has selected the proposed plant based on the availability of land, close proximity to major road ways, as well as access to a river. The proposed plant site has been zoned industrial and has access to infrastructure to support the plant being proposed. BRS as part of the property selection process as evaluated this site and other sites as well. This site meets the criteria for this plant and ranked the highest in terms of plant site selection. BRS does not have the ability to select an alternative site, since an alternative site would not meet the site qualifications for a project of this nature.

The full impact modeling analysis also requires modeling to show that the emissions from the facility and surrounding existing sources will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS). A summary of the results of the NAAQS analysis is in the table below.

<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Maximum Modeled Impact (μg/m^3)</th><th>Background Concentration (μg/m^3)</th><th>Total Impact (μg/m^3)</th><th>NAAQS (μg/m^3)</th></tr>
<tr><td>PM_{10}</td><td>24 – hour</td><td>62.8</td><td>36.7</td><td>99.5</td><td>150</td></tr>
<tr><td>$PM_{2.5}$</td><td>24 – hour</td><td>10.6</td><td>19.47</td><td>30.1</td><td>35</td></tr>
<tr><td></td><td>Annual</td><td>2.47</td><td>9.44</td><td>11.91</td><td>12</td></tr>
<tr><td>SO_2</td><td>1 – Hour</td><td>54.9</td><td>46.30</td><td>101.2</td><td>196</td></tr>
<tr><td></td><td>3 – Hour</td><td>30.8</td><td>30.6</td><td>61.4</td><td>1,300</td></tr>
<tr><td></td><td>24 – Hour</td><td>11.5</td><td>25.9</td><td>37.4</td><td>365</td></tr>
<tr><td>NO_2</td><td>1 - Hour</td><td>181.8</td><td rowspan="2">Integrated within the modeling processor</td><td>181.8</td><td>188</td></tr>
<tr><td></td><td>Annual</td><td>55.1</td><td>55.1</td><td>100</td></tr>
<tr><td>Lead</td><td>3 – month</td><td>0.005</td><td>0.01</td><td>0.015</td><td>0.15</td></tr>
</table>

Additional Impact Review

An applicant for a Prevention of Significant Deterioration (PSD) permit must prepare additional impact analyses for each pollutant subject to the regulation under the Clean Air Act Amendments. Three areas constitute the Additional Impact Review: a growth analysis, a soils and vegetation analysis, and a visibility analysis**.**

Growth Analysis

The Growth Analysis estimates the impact of atmospheric emissions that will be generated by the projected growth from industrial, commercial, and residential growth associated with the project. The only increase in emissions from associated growth results from the increase in workers traveling to and from work. Emissions from this are assumed to be insignificant and would not have a minor impact (if any) to the area.

Soils and Vegetation Analysis

A PSD applicant must also conduct a soil and vegetation air pollution impact analysis based on an inventory of the soils and vegetation types found in the impact area. For most types of soils and vegetation ambient concentrations of criteria pollutants below the secondary NAAQS will not result in harmful effects.

Class I Analysis

A screening analysis for visibility and deposition on the nearest Class I area was conducted. Based on these results, no further analysis was required. Results are summarized in the following tables.

Visibility Screening Results

Year	Number of days with Delta-Deciview ≥ 0.50	Number of days with Delta-Deciview ≥ 1.00	Largest Delta-Deciview
2001	0	0	0.159
2002	0	0	0.165
2003	0	0	0.284

Deposition

Year	Nitrogen Deposition kg/ha/yr	Sulfur Deposition kg/ha/yr
2001	0.0025087	0.0023191
2002	0.0034680	0.0037545
2003	0.0023555	0.00252
Screening Level	0.010	0.005

Best Available Control Technology

The PSD regulations mandate that a case-by-case Best Available Control Technology (BACT) analysis be performed on all new or modified affected sources at which a net emissions increase will occur. The following table is a summary of the BACT determinations made in this permit.

For more detailed discussion of BACT see the BACT analysis section of the permit application. The following items were changed from what was in the BACT analysis.

The galvanizing line was given a limit of 0.035 lb/MMBTU and SCR as the control technology. Earlier versions of the application proposed this limit. Later versions requested a higher limit. BRS was asked multiple times to explain why they could not meet the same BACT limit as other sources and apply the same controls. BRS did not provide an adequate explanation to show they could not install SCR and meet limit other sources were meeting. Therefore, the lower limit was given.

The proposed BACT limits for the cooling towers were drift eliminators and low TDS. The RBLC clearing house lists many similar sources which define low TDS as less than 1000 ppm. BRS had proposed 1500 ppm. BRS was asked to provide more information as to why they could not meet the 1000 ppm limit. The information provided did not adequately explain why BRS could not meet the same BACT limits as other similar sources. Therefore a limit of 1000 ppm was placed on those cooling towers.

All the proposed natural gas sources used emission factors for PM and CO in the calculations of limits and the modeling relied on to demonstrate compliance with the NAAQS and PSD increment which were lower than the proposed BACT limits for those sources. BRS was asked to correct these emission limits and modeling. Since the latest version of the modeling and application used the lower emission factors to calculate the emission rates and in the modeling, those lower emission factors were as applied as BACT limits for the natural gas sources.

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
01 and 02	EAFs	PM	Fabric Filter	0.0018 gr/dscf (filterable only)
		PM_{10}	Fabric Filter	0.0024 gr/dscf
		$PM_{2.5}$	Fabric Filter	0.0024 gr/dscf
		Opacity	Fabric Filter	3% as a 6 minute average 6% from melt shop
		SO_2	Scrap management plan	0.18 lb/ton of steel produced
		VOC	Scrap management plan and good operating practices	0.088 lb/ton steel produced
		CO		2 lb/ton of steel produced
		NO_X		0.3 lb/ton of steel produced
		Lead	Fabric Filter	0.00056 lb/ton of steel produced
01 and 02	LMFs	PM	Fabric Filter	0.0018 gr/dscf (filterable only)
		PM_{10}	Fabric Filter	0.0024 gr/dscf

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		$PM_{2.5}$	Fabric Filter	0.0024 gr/dscf
		Opacity	Fabric Filter	3% as a 6 minute average 6% from melt shop
		SO_2	Scrap management plan	0.02 lb/ton of steel produced
		VOC	Scrap management plan and good operating practices	0.005 lb/ton of steel produced
		CO		0.02 lb/ton of steel produced
		NO_X		0.05 lb/ton of steel produced
		Lead	Fabric Filter	
SN-01, 02, and 03	Meltshop	GHG	Energy Efficiency improvements.	0.155 tons of CO_2e/Ton of Liquid steel produced.
SN-03	RH Degasser	CO (from degasser)	Flare	0.04 lb/ton of steel produced
		PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X		1.0 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-04	RH Degasser Boiler	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.035 lb/MMBTU

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		GHG	Good operating practices Minimum Boiler Efficiency	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU 75%
SN-04A SN-04B SN-04C SN-04D	RH Vessel Preheater Station, Vessel Top Part Dryer, RH Vessel Nozzle Dryer RH Degasser Burner/Lance	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.08 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-05 – SN-09	Ladle Preheaters	PM	Combustion of Natural gas and Good Combustion Practices	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.08 lb/MMBTU

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-10 and SN-11	Ladle Dryout Station	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.08 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-12 and 13	Vertical Ladle Holding Station	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.08 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-16 through 19	Tundish Preheaters #1 through #4	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.08 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-20 and SN-21	Tunnel Furnaces	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-22	Pickle Line Boiler	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.035 lb/MMBTU

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		GHG	Good operating practices Minimum Boiler Efficiency	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU 75%
SN-23	Pickle Line Scale Exhaust	PM	Fabric Filter	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-23A	Tension Leveler Dust Exhaust	PM	Fabric Filter	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-25	Tandem Cold Mill	PM	Mist Eliminator	0.0025 gr/dscf (filterable only)
		PM_{10}		0.0066 gr/dscf
		$PM_{2.5}$		0.0066 gr/dscf
		Opacity		
SN-26, SN-27	Galvanizing Line Boiler	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.035 lb/MMBTU
		GHG	Good operating practices Minimum Boiler Efficiency	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU 75%
SN-28, SN-29	Galvanizing Line Preheater	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	SCR, Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.035 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-34, SN-35, SN-36, SN-37	Galvanizing Line Caustic Cleaning and Post Treatment	PM	Mist Eliminator	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-38	Skin Pass Mill	PM	Mist Eliminator	0.0025 gr/dscf
		PM_{10}		0.0066 gr/dscf
		$PM_{2.5}$		
		Opacity		5%
SN-39	Annealing Furnaces	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-40, SN-42	Decarburizing Line Furnace Section	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners SCR Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-41, SN-43	Decarburizing Line Cleaning Sections	PM	Mist Eliminator	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		
SN-44, SN-45, SN-46	Reversing Cold Mills	PM	Mist Eliminator	0.0025gr/dscf 0.0066 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		
SN-47	Annealing Pickling Line Furnace Section	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners SCR Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-48, SN-49	Annealing Pickling Line Scale Dust	PM	Fabric Filter	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		

BACT Analysis Summary

Source	Description	Pollutant	Control Technology	BACT Limit
	Exhaust and Shotblast	Opacity		5%
SN-51	Annealing Coating Line Furnace Section	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners SCR Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-52	Annealing Coating Line Cleaning Section	PM	Mist Eliminator	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-53	Annealing Coating Line Drying Furnace	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		CO		0.0824 lb/MMBTU
		VOC Natural gas Combustion	RTO	0.0054 lb/MMBTU
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-54,	MgO Coating	PM	Combustion of	0.00052 lb/MMBTU

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-56	Lines Drying Sections	PM_{10}	Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-55, SN-57	MgO Coating Lines Cleaning Sections	PM	Mist Eliminator	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		
SN-58, SN-60	Final Annealing and Coating Lines Furnace Sections	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NO_x burners SCR Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-62	Emergency Generator #1	PM	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.02 g/kW-Hr
		PM_{10}		0.02 g/kW-Hr
		$PM_{2.5}$		0.02 g/kW-Hr
		Opacity		20%
		SO_2		<0.0015% sulfur in fuel
		VOC		0.19 g/kW-Hr

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		CO		3.5 g/kW-Hr
		NO_X		0.4 g/kW-Hr
		GHG	Good Combustion Practices	CO_2 163 lbs/MMBTU CH_4 0.0061 lbs/MMBTU N_2O 0.0013 lbs/MMBTU
SN-63 through 67	Emergency Generators 2 through 6	PM	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.04 g/kW-Hr
		PM_{10}		0.04 g/kW-Hr
		$PM_{2.5}$		0.04 g/kW-Hr
		Opacity		20%
		SO_2		<0.0015% sulfur in fuel
		VOC		0.19 g/kW-Hr
		CO		3.5 g/kW-Hr
		NO_X		0.67 g/kW-Hr
		GHG	Good Combustion Practices	CO_2 163 lbs/MMBTU CH_4 0.0061 lbs/MMBTU N_2O 0.0013 lbs/MMBTU
SN-68 through 73	Non-Contact Cooling Towers	PM	Drift Eliminators Low TDS	0.0005 percent drift loss
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-73 through 79	Contact Cooling Towers	PM	Drift Eliminators Low TDS	0.0005 percent drift loss
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-80	Charge Crane	PM	Dust Control Plan	0.1 lb/hr, 0.1 tpy
		PM_{10}		0.1 lb/hr, 0.1 tpy 0.1 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
SN-81	Scrap yard Stockpiling	PM	Dust Control Plan	0.1 lb/hr, 0.5 tpy
		PM_{10}		0.1 lb/hr, 0.2 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
SN-82	EAF Flux Receiving System	PM	Dust Control Plan Enclosed Receiving System with Fabric Filter	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-83	EAF Flux Storage and Handling System	PM PM_{10} $PM_{2.5}$	Dust Control Plan, Enclosed Conveyors with Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf 0.01 gr/dscf
		Opacity		5%
SN-84	Carbon Injection Receiving	PM	Dust Control Plan Enclosed Receiving System with Fabric Filter	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-85	Carbon Injection Storage and Handling System	PM	Dust Control Plan, Enclosed Conveyors with Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf 0.01 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-86	LMF Flux Receiving	PM	Dust Control Plan Enclosed Receiving System with Fabric Filter	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
87	LMF Flux Storage and Handling System	PM	Dust Control Plan, Enclosed Conveyors with Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf 0.01 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
88	Alloy Receiving System	PM	Dust Control Plan Enclosed Receiving System with Fabric Filter	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
89	Alloy Storage and Handling System	PM	Dust Control Plan, Enclosed Conveyors with Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf 0.01 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
90	Alloy Delivery	PM	Dust Control Plan, Enclosed	0.003 gr/dscf
		PM_{10}		

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
	System – LMF	$PM_{2.5}$	Conveyors with Fabric Filters Enclosed Receiving System with Fabric Filter Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf 0.01 gr/dscf
		Opacity		5%
91	Alloy Deliver System – RH Degasser	PM	Dust Control Plan, Enclosed Conveyors with Fabric Filters Enclosed Receiving System with Fabric Filter Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		0.003 gr/dscf 0.01 gr/dscf
		Opacity		5%
92	Inside Drop Point - Spent Refractory and Other Waste	PM	Dust Control Plan	0.1 lb/hr, 0.1 tpy
		PM_{10}		0.1 lb/hr, 0.1 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
93	Outside Drop Point - Spent Refractory and Other Waste	PM	Dust Control Plan	0.1 lb/hr, 0.1 tpy
		PM_{10}		0.1 lb/hr, 0.1 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
94	Inside Drop Point – EAF Dust	PM	Dust Control Plan	0.1 lb/hr, 0.1 tpy
		PM_{10}		0.1 lb/hr, 0.1 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
95	Drop Points Slag	PM	Dust Control Plan	0.2 lb/hr, 0.8 tpy
		PM_{10}		0.1 lb/hr, 0.4 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
93	Outside Drop Point - Spent Refractory	PM	Dust Control Plan	0.1 lb/hr, 0.1 tpy
		PM_{10}		0.1 lb/hr, 0.1 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
	and Other Waste	Opacity		20%
94	Inside Drop Point – EAF Dust	PM	Dust Control Plan	0.1 lb/hr, 0.1 tpy
		PM_{10}		0.1 lb/hr, 0.1 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
95	Drop Points Slag	PM	Dust Control Plan	0.2 lb/hr, 0.8 tpy
		PM_{10}		0.1 lb/hr, 0.4 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
96	Slag Handling and Conveying	PM	Dust Control Plan	0.2 lb/hr, 0.5 tpy
		PM_{10}		0.1 lb/hr, 0.2 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
97	Paved Roads	PM	Dust Control Plan	0.7 lb/hr, 2.9 tpy
		PM_{10}		0.2 lb/hr, 0.6 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.2 tpy
98	Unpaved Roads	PM	Dust Control Plan	2.2 lb/hr, 9.6 tpy
		PM_{10}		0.6 lb/hr, 2.6 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.3 tpy
99A	Feed Stock Piles - Wind Erosion	PM	Dust Control Plan	0.9 lb/hr, 3.7 tpy
		PM_{10}		0.5 lb/hr, 1.9 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.3 tpy
		Opacity		20%
99B	Slag Piles – Wind Erosion	PM	Dust Control Plan	0.2 lb/hr, 0.6 tpy
		PM_{10}		0.1 lb/hr, 0.3 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%

Regulations

The following table contains the regulations applicable to this permit.

Regulations
Arkansas Air Pollution Control Code, Regulation 18, effective June 18, 2010
Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective September 13, 2014
Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective

November 18, 2012
40 CFR 52.21, *Prevention of Significant Deterioration*
40 CFR Part 60, Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*
40 CFR Part 60, Subpart AAa - *Standards of Performance for Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983*
40 CFR Part 60, Subpart TT – *Standards of Performance for Metal Coil Surface Coating*
40 CFR Part 60 Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*
40 CFR Part 63 Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustions Engines*
40 CFR Part 63 Subpart YYYYY, *National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steel Making Facilities*.

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 Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	63.3 87.2 86.2 190.4 64.2 1194.5 294.6 0.2808336 --	238.1 321.3 315.9 350.3 194.1 3949.7 1067.7 0.963618 1,203,020
HAPs		Arsenic Cadmium Formaldehyde HCl Manganese Mercury	0.0042977 0.005827 0.1236 1.0 0.1605743 0.0603949	0.013419 0.017776 0.4523 3.5 0.602735 0.201912
Air Contaminants **		H_2SO_4	6.4	0.6

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
01	EAF I and LMF I	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Manganese Mercury	16.2 21.6 21.6 50.0 23.3 505.0 87.5 0.14 -- 0.002 0.002 0.08 0.03	71.0 94.7 94.7 170.0 79.1 1717.0 297.5 0.48 258,060 0.006 0.005 0.3 0.1
02	EAF II and LMF II	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Manganese Mercury	16.2 21.6 21.6 50.0 23.3 505.0 87.5 0.14 -- 0.002 0.002 0.08 0.03	71.0 94.7 94.7 170.0 79.1 1717.0 297.5 0.48 258,060 0.006 0.005 0.3 0.1
03	Vacuum Tank Degasser (RH Degasser)	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 9.8 0.4 0.000003 -- 0.000001 0.000006 0.004 0.000002 0.000002	0.1 0.1 0.1 0.1 0.2 29.8 1.8 0.00002 4,760 0.000005 0.00003 0.0002 0.000009 0.00006

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
04	RH Degasser Boiler	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.3 4.2 1.8 0.00003 -- 0.00001 0.00006 0.004 0.00002 0.00002	0.2 0.2 0.2 0.2 1.2 18.4 7.9 0.0002 26,136 0.00005 0.0003 0.02 0.00009 0.00006
04A	RH Degasser Preheater Station	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 0.5 0.5 0.000003 -- 0.000002 0.000007 0.0005 0.000003 0.000002	0.1 0.1 0.1 0.1 0.2 2.2 2.1 0.00002 3,075 0.000006 0.00003 0.002 0.00001 0.000007
04B	RH Degasser Top Part Dryer	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde	0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.0000007 -- 0.0000003 0.000002 0.0002	0.1 0.1 0.1 0.1 0.1 0.5 0.5 0.000004 717 0.000002 0.000007 0.0005

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Manganese Mercury	0.0000006 0.0000004	0.000003 0.000002
04C	RH Degasser Nozzle Dryer	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.0000009 -- 0.0000004 0.000002 0.0002 0.0000007 0.0000005	0.1 0.1 0.1 0.1 0.1 0.7 0.7 0.000004 922 0.000002 0.000009 0.0006 0.000003 0.000003
04D	RH Degasser Burner/Lance	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 0.8 0.8 0.000005 -- 0.000002 0.00001 0.0007 0.000004 0.000003	0.1 0.1 0.1 0.1 0.3 3.3 3.2 0.00002 4,612 0.000008 0.00005 0.003 0.00002 0.00001
05	Ladle Preheater 1	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic	0.1 0.1 0.1 0.1 0.1 1.3 1.2 0.000008 -- 0.000003	0.1 0.1 0.1 0.1 0.4 5.5 5.3 0.00004 7,687 0.00002

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Cadmium Formaldehyde Manganese Mercury	0.00002 0.002 0.000006 0.000004	0.00008 0.005 0.00003 0.00002
06	Ladle Preheater 2	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 1.3 1.2 0.000008 -- 0.000003 0.00002 0.002 0.000006 0.000004	0.1 0.1 0.1 0.1 0.4 5.5 5.3 0.00004 7,687 0.00002 0.00008 0.005 0.00003 0.00002
07	Ladle Preheater 3	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 1.3 1.2 0.000008 -- 0.000003 0.00002 0.002 0.000006 0.000004	0.1 0.1 0.1 0.1 0.4 5.5 5.3 0.00004 7,687 0.00002 0.00008 0.005 0.00003 0.00002
08	Ladle Preheater 4	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead	0.1 0.1 0.1 0.1 0.1 1.3 1.2 0.000008	0.1 0.1 0.1 0.1 0.4 5.5 5.3 0.00004

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	-- 0.000003 0.00002 0.002 0.000006 0.000004	7,687 0.00002 0.00008 0.005 0.00003 0.00002
09	Ladle Preheater 5	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 1.3 1.2 0.000008 -- 0.000003 0.00002 0.002 0.000006 0.000004	0.1 0.1 0.1 0.1 0.4 5.5 5.3 0.00004 7,687 0.00002 0.00008 0.005 0.00003 0.00002
10	Ladle Dryout Heater 1	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 1.3 1.2 0.000008 -- 0.000003 0.00002 0.002 0.000006 0.000004	0.1 0.1 0.1 0.1 0.4 5.5 5.3 0.00004 7,687 0.00002 0.00008 0.005 0.00003 0.00002
11	Ladle Dryout Heater 2	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO	0.1 0.1 0.1 0.1 0.1 1.3	0.1 0.1 0.1 0.1 0.4 5.5

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	1.2 0.000008 -- 0.000003 0.00002 0.002 0.000006 0.000004	5.3 0.00004 7,687 0.00002 0.00008 0.005 0.00003 0.00002
12	Vertical Ladle Holding Station 1	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 1.0 0.9 0.000006 -- 0.000003 0.00002 0.0009 0.000005 0.000003	0.1 0.1 0.1 0.1 0.3 4.0 3.9 0.00003 5,637 0.00001 0.00006 0.004 0.00002 0.00002
13	Vertical Ladle Holding Station 2	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 1.0 0.9 0.000006 -- 0.000003 0.00002 0.0009 0.000005 0.000003	0.1 0.1 0.1 0.1 0.3 4.0 3.9 0.00003 5,637 0.00001 0.00006 0.004 0.00002 0.00002
16	Tundish Preheater 1	PM PM_{10} $PM_{2.5}$ SO_2	0.1 0.1 0.1 0.1	0.1 0.1 0.1 0.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.9 0.8 0.000005 -- 0.000002 0.00002 0.0008 0.000004 0.000003	0.3 3.7 3.5 0.00003 5,125 0.000009 0.00005 0.004 0.00002 0.00002
17	Tundish Preheater 2	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 0.9 0.8 0.000005 -- 0.000002 0.00002 0.0008 0.000004 0.000003	0.1 0.1 0.1 0.1 0.3 3.7 3.5 0.00003 5,125 0.000009 0.00005 0.004 0.00002 0.00002
18	Tundish Preheater 3	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.1 0.9 0.8 0.000005 -- 0.000002 0.00002 0.0008 0.000004 0.000003	0.1 0.1 0.1 0.1 0.3 3.7 3.5 0.00003 5,125 0.000009 0.00005 0.004 0.00002 0.00002
19	Tundish Preheater 4	PM PM_{10}	0.1 0.1	0.1 0.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		$PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.9 0.8 0.000005 -- 0.000002 0.00002 0.0008 0.000004 0.000003	0.1 0.1 0.3 3.7 3.5 0.00003 5,125 0.000009 0.00005 0.004 0.00002 0.00002
20	Tunnel Furnace 1	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.2 0.2 0.2 0.2 1.3 19.3 23.4 0.0002 -- 0.00005 0.0003 0.02 0.00009 0.00006	0.6 0.6 0.6 0.6 5.6 84.5 102.5 0.0006 119,919 0.0003 0.002 0.08 0.0004 0.0003
21	Tunnel Furnace 2	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.2 0.2 0.2 0.2 1.1 15.9 19.2 0.0001 -- 0.00004 0.0003 0.02 0.00008 0.00005	0.5 0.5 0.5 0.5 4.6 69.3 84.1 0.0005 98,395 0.0002 0.001 0.07 0.0004 0.0003

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
22	Pickle Line Boiler	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.4 5.6 2.4 0.00004 -- 0.00002 0.00008 0.005 0.00003 0.00002	0.2 0.2 0.2 0.2 1.6 24.2 10.3 0.0002 34,336 0.00006 0.0004 0.03 0.0002 0.00008
23	Pickle Line Scale Dust	PM PM_{10} $PM_{2.5}$	1.0 1.0 1.0	4.4 4.4 4.4
23A	Push Pull Pickle Line Tension Leveler Scale Dust Exhaust	PM PM_{10} $PM_{2.5}$	0.4 0.4 0.4	1.7 1.7 1.7
24	Pickling Section	HCl	0.2	0.6
24A	Push Pull Pickle Line Pickling Section	HCl	0.2	0.8
25	Tandem Cold Mill	PM PM_{10} $PM_{2.5}$	4.8 12.5 12.5	14.4 37.9 37.9
26	Galvanizing Line Boiler 1	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese	0.1 0.1 0.1 0.1 0.2 2.1 0.9 0.00002 -- 0.000005 0.00003 0.002 0.00001	0.1 0.1 0.1 0.1 0.6 8.9 3.8 0.00006 12,556 0.00003 0.0002 0.008 0.00004

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Mercury	0.000007	0.00003
27	Galvanizing Line Boiler 2	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.2 2.1 0.9 0.00002 -- 0.000005 0.00003 0.002 0.00001 0.000007	0.1 0.1 0.1 0.1 0.6 8.9 3.8 0.00006 12,556 0.00003 0.0002 0.008 0.00004 0.00003
28	Galvanizing Line Preheater 1	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.5 7.2 3.1 0.00005 -- 0.00002 0.0001 0.007 0.00004 0.00003	0.2 0.2 0.2 0.3 2.1 31.6 13.4 0.0002 44,790 0.00008 0.0004 0.03 0.0002 0.0001
29	Galvanizing Line Preheater 2	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic	0.1 0.1 0.1 0.1 0.5 7.2 3.1 0.00005 -- 0.00002	0.2 0.2 0.2 0.3 2.1 31.6 13.4 0.0002 44,790 0.00008

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Cadmium Formaldehyde Manganese Mercury	0.0001 0.007 0.00004 0.00003	0.0004 0.03 0.0002 0.0001
34	Galvanizing Line Caustic Cleaning 1	PM PM_{10} $PM_{2.5}$	0.2 0.2 0.2	0.9 0.9 0.9
35	Galvanizing Line Caustic Cleaning 2	PM PM_{10} $PM_{2.5}$	0.2 0.2 0.2	0.9 0.9 0.9
36	Galvanizing Line Post Treatment 1	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.3 0.3 0.3
37	Galvanizing Line Post Treatment 2	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.3 0.3 0.3
38	Skin Pass Mill	PM PM_{10} $PM_{2.5}$	0.6 1.5 1.5	1.8 4.6 4.6
39	Annealing Furnaces	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.1 0.1 0.1 0.1 0.6 8.1 9.9 0.00005 -- 0.00002 0.0002 0.008 0.00004 0.00003	0.3 0.3 0.3 0.3 2.4 35.5 43.1 0.0003 50,351 0.00009 0.0005 0.04 0.0002 0.0002
40	Decarburizing Line 1 Furnace Section	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X	0.5 0.5 0.5 0.1 0.2 3.0 3.6	2.1 2.1 2.1 0.1 0.9 13.0 15.8

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.00002 -- 0.000008 0.00004 0.003 0.00002 0.00001	0.00008 18,449 0.00004 0.0002 0.02 0.00006 0.00005
41	Decarburizing Line 1 Cleaning Section	PM PM_{10} $PM_{2.5}$	0.3 0.3 0.3	1.2 1.2 1.2
42	Decarburizing Line 2 Furnace Section	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.3 0.3 0.3 0.1 0.2 1.9 2.2 0.00002 -- 0.000005 0.00003 0.002 0.000009 0.000006	1.3 1.3 1.3 0.1 0.6 8.0 9.7 0.00005 11,274 0.00002 0.0002 0.008 0.00004 0.00003
43	Decarburizing Line 2 Cleaning Section	PM PM_{10} $PM_{2.5}$	0.3 0.3 0.3	1.1 1.1 1.1
44	Reversing Cold Mill 3	PM PM_{10} $PM_{2.5}$	1.5 4.0 4.0	4.6 12.1 12.1
45	Reversing Cold Mill 1	PM PM_{10} $PM_{2.5}$	1.5 4.0 4.0	4.6 12.1 12.1
46	Reversing Cold Mill 2	PM PM_{10} $PM_{2.5}$	1.5 4.0 4.0	4.6 12.1 12.1
47	Annealing Pickling Line – Annealing Furnace	PM PM_{10} $PM_{2.5}$ SO_2	0.9 0.9 0.9 0.1	3.8 3.8 3.8 0.2

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.4 5.5 6.6 0.00004 -- 0.00002 0.00008 0.005 0.00003 0.00002	1.6 23.9 29.0 0.0002 33,823 0.00006 0.00004 0.003 0.0002 0.00008
48	Annealing Pickling Line – Scale Dust Exhaust	PM PM_{10} $PM_{2.5}$	0.7 0.7 0.7	3.0 3.0 3.0
49	Annealing Pickling Line – Shot Blast	PM PM_{10} $PM_{2.5}$	0.7 0.7 0.7	3.0 3.0 3.0
50	Annealing Pickling Line Pickling Section	HCl	0.2	0.7
51	Annealing Coating Line - Annealing Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.6 0.6 0.6 0.1 0.3 3.8 4.6 0.00003 -- 0.00001 0.00005 0.004 0.00002 0.00002	2.7 2.7 2.7 0.2 1.1 17.6 20.2 0.0002 23,574 0.00004 0.0003 0.02 0.00008 0.00006
52	Annealing Coating Line – Cleaning Section	PM PM_{10} $PM_{2.5}$	0.3 0.3 0.3	1.1 1.1 1.1
53	Annealing Coating Line – Drying Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC	0.3 0.3 0.3 0.1 0.5	1.1 1.1 1.1 0.1 2.4

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates lb/hr	Emission Rates tpy
		CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	1.5 1.8 0.000009 -- 0.000004 0.00002 0.002 0.000007 0.000005	6.5 7.9 0.00004 9,225 0.00002 0.00009 0.006 0.00003 0.00003
54	MgO Coating Line 1 – Drying Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.2 0.2 0.2 0.1 0.1 1.2 1.4 0.000007 -- 0.000003 0.00002 0.001 0.000005 0.000004	0.8 0.8 0.8 0.1 0.4 4.8 5.9 0.00003 6,816 0.00002 0.00007 0.005 0.00003 0.00002
55	MgO Coating Line 1 – Cleaning Section	PM PM_{10} $PM_{2.5}$	0.3 0.3 0.3	1.1 1.1 1.1
56	MgO Coating Line 2 – Drying Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.2 0.2 0.2 0.1 0.1 1.2 1.4 0.000007 -- 0.000003 0.00002 0.001 0.000005 0.000004	0.8 0.8 0.8 0.1 0.4 4.8 5.9 0.00003 6,816 0.00002 0.00007 0.005 0.00003 0.00002

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
57	MgO Coating Line 2 – Cleaning Section	PM PM_{10} $PM_{2.5}$	0.3 0.3 0.3	1.1 1.1 1.1
58	Final Annealing and Coating Line 1 – Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.5 0.5 0.5 0.1 0.2 2.7 3.2 0.00002 -- 0.000007 0.00004 0.003 0.00002 0.000009	1.9 1.9 1.9 0.1 0.8 11.6 14.1 0.00007 16,399 0.00003 0.0002 0.002 0.00006 0.00004
59	Final Annealing and Coating Line 1 – Cleaning Section	HCl	0.2	0.7
60	Final Annealing and Coating Line 2 – Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e Arsenic Cadmium Formaldehyde Manganese Mercury	0.5 0.5 0.5 0.1 0.2 2.7 3.2 0.00002 -- 0.000007 0.00004 0.003 0.00002 0.000009	1.9 1.9 1.9 0.1 0.8 11.6 14.1 0.00007 16,399 0.00003 0.0002 0.002 0.00006 0.00004
61	Final Annealing and Coating Line 2 – Cleaning Section	HCl	0.2	0.7
62	Emergency Generator 1 Diesel Fired, 625 hp	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		SO_2 VOC CO NO_X CO_2e H_2SO_4	5.1 1.5 3.6 0.4 -- 0.4	0.3 0.1 0.2 0.1 32 0.1
63	Emergency Generator 2 Diesel Fired, 1500 kW	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X CO_2e H_2SO_4	0.3 0.3 0.3 16.3 1.4 11.9 2.2 -- 1.2	0.1 0.1 0.1 0.9 0.1 0.6 0.1 119 0.1
64	Emergency Generator 3 Diesel Fired, 1500 kW	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X CO_2e H_2SO_4	0.3 0.3 0.3 16.3 1.4 11.9 2.2 -- 1.2	0.1 0.1 0.1 0.9 0.1 0.6 0.1 119 0.1
65	Emergency Generator 4 Diesel Fired, 1500 kW	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X CO_2e H_2SO_4	0.3 0.3 0.3 16.3 1.4 11.9 2.2 -- 1.2	0.1 0.1 0.1 0.9 0.1 0.6 0.1 119 0.1
66	Emergency Generator 5 Diesel Fired, 1500 kW	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X	0.3 0.3 0.3 16.3 1.4 11.9 2.2	0.1 0.1 0.1 0.9 0.1 0.6 0.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		CO_2e H_2SO_4	-- 1.2	119 0.1
67	Emergency Generator 6 Diesel Fired, 1500 kW	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X CO_2e H_2SO_4	0.3 0.3 0.3 16.3 1.4 11.9 2.2 -- 1.2	0.1 0.1 0.1 0.9 0.1 0.6 0.1 119 0.1
68	Non-Contact Cooling Tower 1 – Melt Shop	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.2 0.2 0.2
69	Non-Contact Cooling Tower 2 – Melt Shop	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.3 0.3 0.3
70	Non-Contact Cooling Tower 3 – Caster and Hot Mill	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.2 0.2 0.2
71	Non-Contact Cooling Tower 4 – Caster and Hot Mill	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.2 0.2 0.2
72	Non-Contact Cooling Tower 5 – Cold Mill	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.2 0.2 0.2
73	Non-Contact Cooling Tower 6 – Cold Mill	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.4 0.4 0.4
74	Contact Cooling Tower 1 – Melt Shop	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
75	Contact Cooling Tower 2 – Melt Shop	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
76	Contact Cooling Tower 3 – Caster and Hot Mill	PM PM_{10} $PM_{2.5}$	0.2 0.2 0.2	0.7 0.7 0.7
77	Contact Cooling Tower 4 – Caster and Hot Mill	PM PM_{10}	0.2 0.2	0.7 0.7

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		$PM_{2.5}$	0.2	0.7
78	Contact Cooling Tower 5 – Caster and Hot Mill	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.2 0.2 0.2
79	Contact Cooling Tower 6 – Laminar	PM PM_{10} $PM_{2.5}$	0.2 0.2 0.2	0.5 0.5 0.5
80	Charging Crane	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
81	Scrap Yard Stockpiling	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.5 0.2 0.1
82	EAF Flux Receiving System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
83	EAF Flux Storage and Handling System	PM PM_{10} $PM_{2.5}$	0.2 0.1 0.1	0.6 0.3 0.1
84	Carbon Injection Receiving System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
85	Carbon Injection Storage and Handling System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
86	LMF Flux Receiving System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
87	LMF Flux Storage and Handling System	PM PM_{10} $PM_{2.5}$	0.2 0.1 0.1	0.6 0.3 0.1
88	Alloy Receiving System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
89	Alloy Storage and Handling System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
90	Alloy Delivery System – LMF	PM PM_{10}	0.1 0.1	0.1 0.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		$PM_{2.5}$	0.1	0.1
91	Alloy Deliver System – RH Degasser	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
92	Inside Drop Point - Spent Refractory and Other Waste	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
93	Outside Drop Point - Spent Refractory and Other Waste	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
94	Inside Drop Point – EAF Dust	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
95	Drop Points Slag	PM PM_{10} $PM_{2.5}$	0.2 0.1 0.1	0.8 0.4 0.1
96	Slag Handling and Conveying	PM PM_{10} $PM_{2.5}$	0.2 0.1 0.1	0.5 0.2 0.1
97	Paved Roads	PM PM_{10} $PM_{2.5}$	0.7 0.2 0.1	2.9 0.6 0.2
98	Unpaved Roads	PM PM_{10} $PM_{2.5}$	2.2 0.6 0.1	9.6 2.6 0.3
99A	Feed Stock Piles - Wind Erosion	PM PM_{10} $PM_{2.5}$	0.9 0.5 0.1	3.7 1.9 0.3
99B	Slag Piles – Wind Erosion	PM PM_{10} $PM_{2.5}$	0.2 0.1 0.1	0.6 0.3 0.1

*HAPs included in the VOC totals. Other HAPs are not included in any other totals unless specifically stated.
**Air Contaminants such as ammonia, acetone, and certain halogenated solvents are not VOCs or HAPs.

SECTION III: PERMIT HISTORY

Permit #2305-AOP-R0 was issued to Big River Steel LLC on September 18, 2013. This permit was the initial air permit for the facility. The facility required prevention of significant deterioration review to ensure the new source would not cause a significant deterioration of the local ambient air quality. PSD review was required for NO_X, CO, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, lead, and greenhouse gasses.

SECTION IV: SPECIFIC CONDITIONS

MeltShop

SN-01 EAF I and LMF I
SN-02 EAF II and LMF II

Source Description

The steel facility will receive scrap iron and steel by rail and truck. The scrap will be unloaded and stockpiled on site. The scrap will be moved from the storage piles and placed in charging buckets. These charging buckets will be used to load one of the plants two Electric Arc Furnaces, EAF I or EAF II. In the EAF additional raw materials are added through various feed systems and the charged steel is melted using electric arc applied through carbon electrodes. The two EAFs are capable of producing 250 tons per hour of liquid steel each. The liquid steel is then transferred to the Ladle Metallurgy Furnaces (LMF) or the RH Degasser for further refinement.

In the LMF the chemistry and temperature of the molten steel is further refined while it is still in the ladle. The liquid steel proceeds from the LMF to the RH Degasser, SN-03, or to the Casters, SN-14 and 15 depending on the type of steel being produced.

EAF I and LMF I are routed to a single baghouse. EAF II and LMF II are also routed to a single baghouse.

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 4, 5, 6 and 13-30. [Regulation 19 §19.901 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
01	EAF I and LMF I	PM	16.2	71.0
		PM_{10}	21.6	94.7
		$PM_{2.5}$	21.6	94.7
		SO_2	50.0	170.0
		VOC	23.3	79.1
		CO	505.0	1717.0
		NO_X	87.5	297.5
		Lead	0.14	0.48
		CO_2e	--	258,060

SN	Description	Pollutant	lb/hr	tpy
02	EAF II and LMF II	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	16.2 21.6 21.6 50.0 23.3 505.0 87.5 0.14 --	71.0 94.7 94.7 170.0 79.1 1717.0 297.5 0.48 258,060

2. The permittee shall not exceed the emission rates set forth in the following table and must install the control devices or implement the pollution prevention measures set forth in the following table. Compliance with these emission limits shall be demonstrated by compliance with Specific Conditions 6 and 13-30. [Regulation 19, §19.901 and 40 CFR Part 52, Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
01 and 02	EAFs	PM	Fabric Filter	0.0018 gr/dscf (filterable only)
		PM_{10}	Fabric Filter	0.0024 gr/dscf
		$PM_{2.5}$	Fabric Filter	0.0024 gr/dscf
		Opacity	Fabric Filter	3% as a 6 minute average from baghouse 6% from melt shop
		SO_2	Scrap management plan	0.18 lb/ton of steel produced
		VOC	Scrap management plan and good operating practices	0.088 lb/ton steel produced
		CO		2 lb/ton of steel produced
		NO_X		0.3 lb/ton of steel produced
		Lead	Fabric Filter	0.00056 lb/ton of steel produced
01 and 02	LMFs	PM	Fabric Filter	0.0018 gr/dscf (filterable only)
		PM_{10}	Fabric Filter	0.0024 gr/dscf

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		$PM_{2.5}$	Fabric Filter	0.0024 gr/dscf
		Opacity	Fabric Filter	3% as a 6 minute average from baghouse 6% from melt shop
		SO_2	Scrap management plan	0.02 lb/ton of steel produced
		VOC	Scrap management plan and good operating practices	0.005 lb/ton of steel produced
		CO		0.02 lb/ton of steel produced
		NO_X		0.05 lb/ton of steel produced
SN-01, 02, and 03	Meltshop	CO_2e	Energy Efficiency improvements.	0.155 tons of CO_2e/Ton of Liquid steel produced.

3. The permittee shall not exceed the emission rates set forth in the following table. Compliance with these emission limits shall be demonstrated by compliance with Conditions 6 and 13-25 and 31 through 37. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Source	Pollutant	lb/hr	tpy
SN-01	Arsenic Cadmium Manganese Mercury	0.002 0.002 0.08 0.03	0.006 0.005 0.3 0.1
SN-02	Arsenic Cadmium Manganese Mercury	0.002 0.002 0.08 0.03	0.006 0.005 0.3 0.1

4. The permittee shall not process more steel through the EAFs on a 12 month rolling total than specified in the table below. [Regulation 19 §19.901 and 40 CFR Part 52, Subpart E]

Source	Limit
SN-01	1,700,000 tons of steel
SN-02	1,700,000 tons of steel

5. The permittee shall maintain monthly records of the amount of steel processed through the EAFs SN-01 and SN-02. These records shall be updated by the fifteenth day of the month following the month to which the records pertain, kept on site, made available to Department personnel upon request and in accordance with General Provision 7. [Regulation 19 §19.901 and 40 CFR Part 52, Subpart E]

6. The permittee shall perform stack testing of SN-01 and SN-02. Testing shall be performed initially and annually thereafter in accordance Plantwide Condition 3 and 4, and EPA Reference Method 5D as found in 40 CFR, Part 60, Appendix A. The sampling time and sampling volume for each run shall be at least 4 hours and 4.50 dscm (160 dscf). The permittee shall report all emissions measured using Method 5D as filterable PM, $PM_{10,}$ or $PM_{2.5}$ or may conduct separate filterable PM_{10} testing using EPA Reference Method 201 or 201A. The permittee shall also conduct test for condensable particulate emissions concurrently using EPA reference Method 202 and include these results in PM_{10} and $PM_{2.5}$ values for compliance with emission rates. The report shall include information specified in §60.276a(f) of 40 CFR, Part 60, Subpart AAa. [§19.304 and §19.704 of Regulation 19, §60.275a(e)(1) of 40 CFR, Part 60, Subpart AAa, and 40 CFR Part 52, Subpart E]

7. Unless the presence of inclement weather makes concurrent testing infeasible, the permittee shall conduct the performance tests required by Specific Conditions 6, 10, and 16, concurrently. [§19.304 of Regulation 19 and 60.275a(e)(4) and 60.275a(j) of 40 CFR, Part 60, Subpart AAa]

8. The permittee shall submit to the Department a written report of the results of the performance test required by Specific Condition 6. The report shall include information specified in §60.276a(f) of 40 CFR, Part 60, Subpart AAa, and the information required under Plantwide Condition 4. [§19.304 and §19.705 of Regulation 19, §60. 276a(f) of 40 CFR, Part 60, Subpart AAa, and 40 CFR Part 52, Subpart E]

9. The permittee shall not discharge into the atmosphere any gases from the EAF Baghouses, SN-01 and SN-02, exhibiting 3 percent opacity or greater. [§19.304 of Regulation 19 and §60.272a(a)(2) of 40 CFR, Part 60, Subpart AAa]

10. The permittee shall perform observations of the opacity of the visible emissions from EAF Baghouses, SN-01 and SN-02 by a certified visible emission observer as follows: Visible emission observations are conducted at least once per day when the furnace is operating in the melting and refining period. These observations shall be taken in accordance with Method 9, and, for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emissions, only one set of three 6-minute observations will be required. In this case, Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of 3% opacity. Reports of

exceedances shall be submitted in accordance with Specific Condition 11. Should the permittee install a single stack to its melt shop baghouse the permittee shall install and operate a bag leak detection system in accordance with §60.273a(c), (e), (f), and (g). The permittee shall maintain records for each bag leak detection system as outlined in §60.276a(h). [§19.304 of Regulation 19 and 40 CFR, Part 60, Subpart AAa]

11. The permittee shall submit a written report of exceedances of the EAF baghouse opacity and the EAF Melt Shop opacity to the Department semi-annually in accordance with General Provision 7. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater at the EAF baghouse, and all 6-minute periods during which the average opacity is 6 percent or greater at the EAF Melt Shop due solely to the operations of the EAF. Opacity observations shall be recorded on a visible emissions observation form. The information presented in Figures 9-1 and 9-2 to EPA Method 9 shall be recorded. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

12. The permittee shall not discharge into the atmosphere any gases which exit from EAF Melt Shop which exceed 6 percent opacity or greater due solely to the operations of the EAF. Exceedances shall be defined as all 6-minute periods during which the average opacity is 6 percent or greater. This opacity limit shall apply at all times that either of the EAFs is in operation and due solely to the operations of the electric arc furnace. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

13. The permittee shall either (a) install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside each EAF to be monitored, pursuant to 40 CFR §60.274a(f), or (b) perform daily observations of shop opacity, pursuant to 40 CFR §60.273a(d). The permittee shall notify the Department which method it elects within 180 days before startup of SN-01 or 02. If the permittee elects to conduct opacity observations, the permittee shall conduct daily opacity readings on the EAF Melt Shop as follows: Shop opacity observations shall be conducted at least once per day when the furnace(s) is operating in the meltdown and refining period. Shop opacity shall be determined as the arithmetic average of 24 or more consecutive 15-second opacity observations of emissions from the shop taken in accordance with Method 9. Shop opacity shall be recorded for any point(s) where visible emissions are observed in proximity to an affected EAF. Where it is possible to determine that a number of visible emission sites relate to only one incident of visible emissions, only one observation of shop opacity will be required. In this case, the shop opacity observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records of these opacity observations shall be kept on site and made available for inspection upon request. Reports of exceedances shall be submitted in accordance with Specific Condition 11. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

14. The permittee shall either:

a. Check and record the control system fan motor amperes and damper positions on a once per shift basis;
b. Install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or
c. Install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet and check and record damper positions on a once per shift basis.
[40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

15. The permittee shall notify the Department which method it elects to use within 180 days of startup of SN-01 or 02 If the permittee elects a method which uses a volumetric flow measuring device, the permittee shall comply with the pertinent provisions of 40 CFR §60.274a(b). If the permittee elects a method based on periodic monitoring of fan motor amperes, damper positions, or both, the permittee shall comply with 40 CFR §60.274a(c), and shall conduct a compliance test to re-establish these parameters as specified in 40 CFR §60.274a(c) within 180 days after the effective date of this permit. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

16. The permittee shall determine baseline values of the fan motor amperes and damper positions, or volumetric flow rate during annual performance testing in accordance with Specific Condition 7, as may be required to demonstrate compliance according to the method chosen by the permittee pursuant to Specific Condition 14. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Appropriate level shall be defined as flow rates equal to or greater than those flow rates established as the baseline during the last annual performance testing on the EAF baghouses. The term appropriate period shall be defined as the time period between each annual performance testing on the EAF baghouses. Flow rates less than the baseline flow rate may be considered unacceptable operation by the Department, if operation at such flow rates results in opacity readings from the EAF melt shop greater than 6%. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

17. The permittee shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

18. The permittee shall visually inspect the upper chamber of the baghouses controlling SN-01 and SN-02 for visible emissions from individual bags on a monthly basis. Worn, frayed, or defective bags shall be replaced within two weeks following the inspection in which the defect is found. The permittee shall maintain a log of the inspection and

maintenance activities. The log shall be signed and dated by the person responsible for making the inspection and/or repair. This log shall be kept on site and can be used by the Department for enforcement purposes. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

19. The permittee shall maintain records of the following information: (1) all data obtained under Specific Condition 16; and (2) all monthly operational status inspections performed under Specific Condition 18. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

20. If the permittee elects to install a device to measure the pressure in the free space inside the EAFs pursuant to Specific Condition 13, the pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF duct prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of ∀5 mm of water gauge over its normal operating range and shall be calibrated according the manufacturer=s instructions. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

21. If the permittee elects to install a device to measure the pressure in the free space inside the EAFs pursuant to Specific Condition 13, during each performance testing conducted in accordance with Specific Condition 6, the permittee shall determine baseline values of the pressure in the free space inside the furnace during the meltdown and refining period(s). The pressure determined during the most recent demonstration of particulate emission compliance shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Department to be unacceptable operation and maintenance of the affected facility. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

22. If the permittee elects to install a device to measure the pressure in the free space inside the EAFs pursuant to Specific Condition 13, the permittee shall maintain records which demonstrate compliance with Specific Condition 21 and may be used by the Department for enforcement purposes. The records shall be updated on a daily basis, shall be kept on site, and shall be provided to Department personnel upon request. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

23. During any performance test conducted in accordance with Specific Condition 6, the owner or operator shall monitor the following information for all heats covered by the test:

(1) Charge weights and materials, and tap weights and materials;
(2) Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and, if the permittee has elected

to measure the pressure inside the EAFs pursuant to Specific Condition 14, the pressure inside an EAF when direct-shell evacuation control systems are used;

(3) Control device operation log; and

(4) Continuous monitor or Reference Method 9 data.

[40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

24. The permittee shall retain all records of the measurements required by Specific Conditions 14 through 23 for at least two years following the date of the measurement. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

25. Operation of the EAFs at a furnace static pressure that exceeds the value established under Specific Condition 21 or at flow rates lower than those established under Specific Condition 14, may be considered by the Department to be unacceptable operation and maintenance of the affected facility, if operation at such rates results in opacity readings at the Melt Shop Building greater than 6%. Operation at such values shall be reported to the Department semiannually. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

26. The permittee shall perform stack testing of SN-01 and SN-02 for NO_x, SO_2, CO, CO_2 and VOC emissions. Testing shall be performed in accordance with Plantwide Conditions 3 and 4 and shall be repeated every six months thereafter. The permittee shall measure NO_x, SO_2, CO_2 and CO emissions in accordance with EPA Reference Methods 7E, 6C, 3A and 10, respectively. The permittee shall measure the total VOC emissions using EPA Reference Method 25A, from which it will subtract out methane (CH_4) and ethane (C_2H_6) emissions from the EAF baghouse using EPA Reference Method 18 to arrive at applicable VOC levels for purposes of this permit. Semiannual stack testing for a pollutant is not required if the permittee elects to operate a CEMS for that pollutant at SN-01 and SN-02. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

27. The permittee shall report to the Department each month the total number of tons of steel tapped from the EAFs during each of the previous twelve months. For each month, the emission factor from the nearest preceding stack test shall be multiplied by the total tons of steel tapped during that month, to establish the amount of each pollutant emitted during that month. The emissions so calculated for each of the last twelve months shall be added together and expressed as tons of pollutant per year. The sum of the last twelve months shall not exceed the ton per year limits for SN-01 in Specific Condition 1. If more than one stack test is conducted during a month, the calculation for that month shall be modified so that the total number of tons of steel tapped during the period between two consecutive stack tests shall be multiplied by the emission factor established by the stack test at the beginning of any such period. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

28. The permittee shall perform stack testing of SN-01 and SN-02 for lead (Pb) emissions. Testing shall be performed in accordance with Plantwide Conditions 3 and 4 and shall be

repeated annually thereafter. The permittee shall measure lead emissions in accordance with EPA Reference Method 12 or other alternate method, provided the Department approves the alternate method prior to use. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

29. In lieu of, or in addition to calculating an emission factor for NO_x, SO_2, CO, CO_2 and VOC and reporting EAF production each month as provided in Specific Condition 27, the permittee may install and operate a monitoring device that continuously monitors and records NO_x, SO_2, CO, CO_2 and/or VOC concentration of gases in the duct leading to the EAF baghouses. The NO_x and SO_2 monitors shall be operated in accordance with performance specification #2 which is found in 40 CFR Part 60, Appendix B, and the CEMS conditions in Attachment A of this permit. The CO monitor shall be operated in accordance with performance specification #4, which is found in 40 CFR Part 60, Appendix B, and the CEMS conditions in Attachment A of this permit. The CO_2 monitor shall be operated in accordance with performance specification #3, which is found in 40 CFR Part 60, Appendix B, and the CEMS conditions in Attachment A of this permit. For purposes of measuring VOCs, the permittee may use an adjustment factor which will assume that the VOCs are 30% less than THC or, may take actual measurements of methane concentrations to subtract from the THC measurement to arrive at the VOC concentration. The VOC monitor shall be operated in accordance with the CEMS conditions in Attachment A of this permit. The permittee shall provide reporting from the CEMS in parts per million (ppm) and also in pounds per hour (lb/hr). The permittee must install monitors for the flow rate through the EAF Baghouses in order to calculate the lb/hr, lb/ton of steel, and tpy emission rates. The permittee shall indicate the methodology used to determine the lb/hr figure in the required reporting. Both ppm and lb/hr data shall be used for compliance purposes. The lb/hr value shall be determined using 3-hour block averages for compliance purposes. [§19.703 of Regulation 19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

30. If the permittee elects to install CEMS, it shall give the Department 15 days advanced written notice. Thereafter, the permittee shall demonstrate compliance either by providing monthly production reports pursuant to Specific Condition 27, or quarterly CEMS excess emission reports. If the permittee elects to discontinue use of CEMS, it shall give the Department 15 days advance written notice and shall resume or continue compliance with Specific Condition 27. [§19.703 of Regulation 19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

31. The permittee shall for metallic scrap utilized in the EAF meet the prepare and implement a pollution prevention plan as required in §63.10685(a)(1) or the scrap restrictions of §63.10685(a)(2). [Regulation 19, §19.304 and 40 CFR Part 63, Subpart YYYYY]

32. The permittee shall for scrap containing motor vehicle scrap participate in and purchase motor vehicle scrap from providers who participate in a program for the removal of mercury switches as required in §63.10685(b)(2) that is approved by the Administrator of

40 CFR Part 63, Subpart YYYYY, prepare and submit for approval a site specific plan for removal of mercury switches as required in 63.10685(b)(1), or certify the scrap does not contain motor vehicle scrap. For scrap that does not contain motor vehicle scrap the permittee must maintain records of documentation that the scrap does not contain motor vehicle scrap. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart YYYYY]

33. The permittee shall maintain the records required in §63.10 and records which demonstrate compliance with the requirements of the pollution prevention plan and scrap restrictions of Specific Condition 31, with the mercury requirements in Specific Condition 32, and the requirements of required in §63.10685(c). Additionally the permittee must maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch program. If the motor vehicle scrap is purchased from a broker, the permittee must maintain records identifying each broker and documentation that all scrap provided by the broker was provided by other scrap providers who participate in an approved mercury switch removal program. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart YYYYY]

34. The permittee must submit semiannual compliance reports to the Administrator of 40 CFR Part 63, Subpart YYYYY for the control of contaminates from scrap according to the requirements of §63.10(a)(3). The report must clearly identify any deviation from the requirements of §63.10685(a) and (b) outlined in Specific Conditions 31 and 32. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart YYYYY]

35. The permittee must install, operate, and maintain a capture system that collects the emissions from each EAF and conveys the collected emissions to a pollutant control device for the removal of particulate matter. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart YYYYY]

36. The permittee must not discharge from SN-01or SN-02 any gasses from an EAF which exhibit a 6% opacity or greater or contain in excess of 0.0052 gr/dscf. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart YYYYY]

37. The permittee must monitor the baghouses, SN-01or SN-02 according to the compliance assurance monitoring requirements outlined in Specific Conditions 13 through 22. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart YYYYY]

RH Degasser and Boiler

SN-03 Vacuum Tank Degasser (RH Degasser)
SN-03A Vacuum Tank Degasser Pilot Flame
SN-04 RH Degasser Boiler
SN-04A RH Vessel Preheater Station
SN-04B RH Vessel Top Part Dryer
SN-04C RH Vessel Nozzle Dryer
SN-04D RH Degasser Burner/Lance
SN-91 Alloy Delivery System RH Degasser

Source Description

The RH Degasser, SN-03, removes dissolved hydrogen from the liquid steel in order to produce certain steel products. The degasser is equipped with a flare to control CO emissions. The degasser is capable processing 250 tons of steel per hour. The RH Degasser Flare is equipped with a 5 MMBTU/hr of natural gas assist and pilot flame.

The RH Degasser Boiler, SN-04 is used to provide steam and heat to the RH Degasser. It is a 51 MMBTU/hr natural gas fired boiler.

The RH Vessel Preheater Station, SN-04A, the RH Vessel Top Part Dryer, SN-04B, the RH Vessel Nozzle Dryer, SN-04C, and RH Degasser Burner/Lance, SN-04D are all natural gas fired burners to support the RH Degasser. The RH Vessel Preheater Station, SN-04A, is rated at 6 MMBTU/hr. The RH Vessel Top Part Dryer, SN-04B, is rated at 1.4 MMBTU.hr. The RH Vessel Nozzle Dryer, SN-04C, is rated at 1.8 MMBTU/hr. The RH Degasser Burner/Lance, SN-04D is rated at 9 MMBTU/hr.

The Alloy Delivery System RH Degasser, SN-91, is used to transport and feed alloy materials into the RH degasser. A stocking pocket conveyer will be used to transfer materials into feed hoppers that will be used in the RH degasser.

Specific Conditions

38. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 41, 42, 45 and 51. [Regulation 19 §19.901 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
SN-03	Vacuum Degasser (RH Degasser)	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.1 9.8 0.4 0.000003 --	0.1 0.1 0.1 0.1 0.2 29.8 1.8 0.00002 4,760
SN-04	Vacuum Degasser Boiler	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.3 4.2 1.8 0.00003 --	0.2 0.2 0.2 0.2 1.2 18.4 7.9 0.0002 26,136
04A	RH Degasser Preheater Station	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.1 0.5 0.5 0.000003 --	0.1 0.1 0.1 0.1 0.2 2.2 2.1 0.00002 3,075
04B	RH Degasser Top Part Dryer	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.0000007 --	0.1 0.1 0.1 0.1 0.1 0.5 0.5 0.000004 717

SN	Description	Pollutant	lb/hr	tpy
04C	RH Degasser Nozzle Dryer	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.0000009 --	0.1 0.1 0.1 0.1 0.1 0.7 0.7 0.000004 922
04D	RH Degasser Burner/Lance	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.1 0.8 0.8 0.000005 --	0.1 0.1 0.1 0.1 0.3 3.3 3.2 0.00002 4,612
SN-91	Alloy Delivery System RH Degasser	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1

39. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 41, 42, 46, 50 and 51. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
SN-03	Vacuum Degasser (RH Degasser)	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000001 0.000006 0.004 0.000002 0.000002	0.000005 0.00003 0.0002 0.000009 0.00006
SN-04	Vacuum Degasser Boiler	Arsenic Cadmium Formaldehyde Manganese Mercury	0.00001 0.00006 0.004 0.00002 0.00002	0.00005 0.0003 0.02 0.00009 0.00006

SN	Description	Pollutant	lb/hr	tpy
04A	RH Degasser Preheater Station	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000002 0.000007 0.0005 0.000003 0.000002	0.000006 0.00003 0.002 0.00001 0.000007
04B	RH Degasser Top Part Dryer	Arsenic Cadmium Formaldehyde Manganese Mercury	0.0000003 0.000002 0.0002 0.0000006 0.0000004	0.000002 0.000007 0.0005 0.000003 0.000002
04C	RH Degasser Nozzle Dryer	Arsenic Cadmium Formaldehyde Manganese Mercury	0.0000004 0.000002 0.0002 0.0000007 0.0000005	0.000002 0.000009 0.0006 0.000003 0.000003
04D	RH Degasser Burner/Lance	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000002 0.00001 0.0007 0.000004 0.000003	0.000008 0.00005 0.003 0.00002 0.00001

40. The permittee shall not exceed the emission rates set forth in the following table and must install the control devices or implement the pollution prevention measures set forth in the following table. Compliance with this condition will be show by compliance with Specific Conditions 41, 42, 45 and 51. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-03	RH Degasser	CO (from degasser)	Flare	0.04 lb/ton of steel produced
		PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO (from natural gas combustion)		0.0824 lb/MMBTU

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		NO_X		1.0 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-04	RH Degasser Boiler	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.035 lb/MMBTU
		GHG	Good operating practices Minimum Boiler Efficiency	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU 75%
SN-04A SN-04B SN-04C SN-04D	RH Vessel Preheater Station, Vessel Top Part Dryer, RH Vessel Nozzle Dryer RH Degasser Burner/Lance	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.08 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
91	Alloy Deliver System – RH Degasser	PM PM_{10} $PM_{2.5}$	Dust Control Plan, Enclosed Conveyors with Fabric Filters Enclosed Receiving System with Fabric Filter Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf 0.003 gr/dscf 0.01 gr/dscf
		Opacity		5%

41. The permittee shall install and operate alarm system to notify the operator of the presence of a pilot flame or other possible flare malfunction. The permittee shall perform monthly visual confirmation of the pilot lights, semi-annually remove the strainer and check for debris, and annual test fire to ensure pilot light. The permittee shall maintain logs of all flare inspection and maintenance activities. These logs shall be kept on site, in accordance with General Provision 7, and made available to Department personnel upon request. [§19.702, §19.304, 40 CFR 52, Subpart E, and 40 CFR Part 64]

42. The permittee shall record and monthly maintain records of the amounts of natural gas combusted in the Vacuum Degasser Boiler, SN-04, during each month. These records shall be kept on site and available for inspection upon request. [§19.304 and 40 CFR Part 60 Subpart Dc]

43. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
SN-03 SN-04 SN-04A SN-04B SN-04C SN-04D	5%	Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E
91	5%	Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E

44. The permittee shall conduct weekly observations of the opacity from SN-03, and 91. If visible emissions are detected, then the permittee shall immediately conduct a 6-minute opacity reading in accordance with EPA Reference Method 9. The result of these observations or readings shall be recorded in a log which shall be kept on site and made available for inspection upon request. [§19.705 of Regulation 19 and 40 CFR 52, Subpart E]

45. The permittee shall test the Vacuum Degasser Boiler, SN-04 for $PM_{2.5}$, CO, and NO_x emissions. This test shall be conducted in accordance with Plantwide Condition 3 and EPA Reference Method 201 with 202, 10, and 7E for $PM_{2.5}$, CO, and NO_x respectively and repeated every 5 years after the initial test. The test for $PM_{2.5}$ shall include filterable and condensable emissions. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

46. The permittee shall test the Vacuum Tank Degasser, SN-03, to show the flare is designed and operated in accordance with 40 CFR 60.18(b) through (f). This test includes a Method 22 for opacity, measurement of the actual gas flow rate and, calculations of the heating value of the gas (if complying with 60.18(c)(3)(ii) and (c)(4)). This test shall be conducted in accordance with Plantwide Condition 3. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

47. When testing the EAF Baghouses SN-01 and 02 for CO_2 emissions as required in Specific Condition 26 the permittee shall test the exhaust for either CO or total carbon from the degasser before it arrives at the flare. The permittee shall test the same heats of steel which were processed by the EAFs and LMFs during the testing for SN-01 and SN-02. The measured CO or total carbon will be used to calculate a CO_2 emission from the degasser assuming the flare is at least 98% efficient. The test may be conducted using EPA Reference Method 10 or a method approved in advance by the Department. The results of this test combined with the testing required in Specific Condition 26 will be used to show compliance with the lb/ton of steel BACT limit for the melt shop. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

48. The permittee shall not process more than 680,000 tons of alloying materials through SN-91 in any consecutive rolling 12-month period. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

49. The permittee shall maintain monthly records of the amount of alloying materials processed through SN-91. The records shall include the amount processed for the previous 12 months and the 12 month rolling total processed. These records shall updated by the 15th day of the month following the month to which the records pertain, kept onsite and in accordance with General Provision 7 and made available to Department personnel upon request. [Regulation 19, §19.901 and 40 CFR Part 52, Subpart E]

50. The permittee shall not process more than 1,500,000 tons of liquid steel through the RH Degasser, SN-03 in any consecutive rolling 12 month period. [Regulation 19, §19.901 and 40 CFR Part 52, Subpart E]

51. The permittee shall maintain monthly records of the amount of steel processed in SN-03. These records shall include the monthly total of steel processed and the rolling 12 month total of steel processed. These records shall be updated by the 15th day of the month following the month to which the records pertain, kept on site, made available to Department personnel upon request, and submitted in accordance with General Provision 7. [Regulation 19, §19.901 and 40 CFR Part 52, Subpart E]

Melt Shop Natural Gas Sources

SN-05 Ladle Preheater 1
SN-06 Ladle Preheater 2
SN-07 Ladle Preheater 3
SN-08 Ladle Preheater 4
SN-09 Ladle Preheater 5
SN-10 Ladle Dryout Heater 1
SN-11 Ladle Dryout Heater 2
SN-12 Vertical Ladle Holding Station 1
SN-13 Vertical Ladle Holding Station 2
SN-16 Tundish Preheater 1
SN-17 Tundish Preheater 2
SN-18 Tundish Preheater 3
SN-19 Tundish Preheater 4

Source Description

The Ladle Preheaters, SN-05 through 09 are natural gas fired burners used to raise the temperature of ladles prior to the transfer of molten steel from the EAFs. Each Ladle Preheater is rated at 15 MMBTU/hr.

The Ladle Dryout Heaters, SN10 and 11, are natural gas fired heaters used to cure new refractory linings after they are replaced. Each of the dryout heaters is rated at 15 MMBTU/hr.

The Vertical Ladle Holding Station, SN-12 and SN-13, are natural gas fired heaters used to provide heat to the ladle metallurgy process in the melt shop. Each of the Vertical Ladle Holding Station is rated at 11 MMBTU/hr.

The Tundish Preheaters, SN-16 through 19 are natural gas fired heaters used to raise the temperature of tundishes prior to transfer of molten steel to the ladles. Each of the tundish preheaters is rated at 10 MMBTU/hr.

Specific Conditions

52. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 56 and Plantwide Condition 5. [Regulation 19 §19.901 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
05	Ladle Preheater 1	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.1 1.3 1.2 0.000008 --	0.1 0.1 0.1 0.1 0.4 5.5 5.3 0.00004 7,687
06	Ladle Preheater 2	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.1 1.3 1.2 0.000008 --	0.1 0.1 0.1 0.1 0.4 5.5 5.3 0.00004 7,687
07	Ladle Preheater 3	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.1 1.3 1.2 0.000008 --	0.1 0.1 0.1 0.1 0.4 5.5 5.3 0.00004 7,687
08	Ladle Preheater 4	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.1 1.3 1.2 0.000008 --	0.1 0.1 0.1 0.1 0.4 5.5 5.3 0.00004 7,687

SN	Description	Pollutant	lb/hr	tpy
09	Ladle Preheater 5	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.4
		CO	1.3	5.5
		NO_X	1.2	5.3
		Lead	0.000008	0.00004
		CO_2e	--	7,687
10	Ladle Dryout Heater 1	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.4
		CO	1.3	5.5
		NO_X	1.2	5.3
		Lead	0.000008	0.00004
		CO_2e	--	7,687
11	Ladle Dryout Heater 2	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.4
		CO	1.3	5.5
		NO_X	1.2	5.3
		Lead	0.000008	0.00004
		CO_2e	--	7,687
12	Vertical Ladle Holding Station 1	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.3
		CO	1.0	4.0
		NO_X	0.9	3.9
		Lead	0.000006	0.00003
		CO_2e	--	5,637

SN	Description	Pollutant	lb/hr	tpy
13	Vertical Ladle Holding Station 2	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.3
		CO	1.0	4.0
		NO_X	0.9	3.9
		Lead	0.000006	0.00003
		CO_2e	--	5,637
16	Tundish Preheater 1	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.3
		CO	0.9	3.7
		NO_X	0.8	3.5
		Lead	0.000005	0.00003
		CO_2e	--	5,125
17	Tundish Preheater 2	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.3
		CO	0.9	3.7
		NO_X	0.8	3.5
		Lead	0.000005	0.00003
		CO_2e	--	5,125
18	Tundish Preheater 3	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.3
		CO	0.9	3.7
		NO_X	0.8	3.5
		Lead	0.000005	0.00003
		CO_2e	--	5,125

SN	Description	Pollutant	lb/hr	tpy
19	Tundish Preheater 4	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.1 0.9 0.8 0.000005 --	0.1 0.1 0.1 0.1 0.3 3.7 3.5 0.00003 5,125

53. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Plantwide Condition 5. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
05	Ladle Preheater 1	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000003 0.00002 0.002 0.000006 0.000004	0.00002 0.00008 0.005 0.00003 0.00002
06	Ladle Preheater 2	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000003 0.00002 0.002 0.000006 0.000004	0.00002 0.00008 0.005 0.00003 0.00002
07	Ladle Preheater 3	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000003 0.00002 0.002 0.000006 0.000004	0.00002 0.00008 0.005 0.00003 0.00002
08	Ladle Preheater 4	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000003 0.00002 0.002 0.000006 0.000004	0.00002 0.00008 0.005 0.00003 0.00002
09	Ladle Preheater 5	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000003 0.00002 0.002 0.000006 0.000004	0.00002 0.00008 0.005 0.00003 0.00002

SN	Description	Pollutant	lb/hr	tpy
10	Ladle Dryout Heater 1	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000003 0.00002 0.002 0.000006 0.000004	0.00002 0.00008 0.005 0.00003 0.00002
11	Ladle Dryout Heater 2	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000003 0.00002 0.002 0.000006 0.000004	0.00002 0.00008 0.005 0.00003 0.00002
12	Vertical Ladle Holding Station 1	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000003 0.00002 0.0009 0.000005 0.000003	0.00001 0.00006 0.004 0.00002 0.00002
13	Vertical Ladle Holding Station 2	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000003 0.00002 0.0009 0.000005 0.000003	0.00001 0.00006 0.004 0.00002 0.00002
16	Tundish Preheater 1	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000002 0.00002 0.0008 0.000004 0.000003	0.000009 0.00005 0.004 0.00002 0.00002
17	Tundish Preheater 2	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000002 0.00002 0.0008 0.000004 0.000003	0.000009 0.00005 0.004 0.00002 0.00002
18	Tundish Preheater 3	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000002 0.00002 0.0008 0.000004 0.000003	0.000009 0.00005 0.004 0.00002 0.00002
19	Tundish Preheater 4	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000002 0.00002 0.0008 0.000004 0.000003	0.000009 0.00005 0.004 0.00002 0.00002

54. The permittee shall not exceed the emission rates set forth in the following table and must install the control devices or implement the pollution prevention measures set forth in the

following table. Compliance with this condition will be show by compliance with Specific Condition 56 and Plantwide Condition 5. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-05 – SN-09	Ladle Preheaters	PM	Combustion of Natural gas and Good Combustion Practices	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.08 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-10 and SN-11	Ladle Dryout Station	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.08 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-12 and 13	Vertical Ladle Holding Station	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.08 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-16 through 19	Tundish Preheaters #1 through #4	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.08 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU

55. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
SN-05, 06, 07, 08, 09, 10, 11, 12, 13, 16, 17, 18, 19	5%	Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E

56. The permittee shall test the sources in the table below for $PM_{2.5}$, and PM_{10}. This test shall be conducted in accordance with Plantwide Condition 3 and EPA Reference Method 202, 10, and 7E for $PM_{2.5}$ and PM_{10}. The test for $PM_{2.5}$ shall include filterable and condensable emissions. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

Source
One of SN-05 through 09
One of SN-10 or SN-11
One of SN-12 or 13
One of SN-16 through 19

Tunnel Furnaces

SN-20 Tunnel Furnace 1
SN-21 Tunnel Furnace 2

Source Description

After being cast into thin slabs, the steel enters the casting tunnel lines. The tunnel furnaces are used to raise the slab temperatures from casting temperatures to rolling temperatures and to equalize the temperatures over the entire slab cross section. The tunnel furnaces have a combined total heat input of 234 and 192 MMBTU/hr from a series of individual natural gas-fired burners rated at 3 MMBTU/hr.

Specific Conditions

57. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 61 and Plantwide Condition 5. [Regulation 19 §19.901 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
20	Tunnel Furnace 1	PM	0.2	0.6
		PM_{10}	0.2	0.6
		$PM_{2.5}$	0.2	0.6
		SO_2	0.2	0.6
		VOC	1.3	5.6
		CO	19.3	84.5
		NO_X	23.4	102.5
		Lead	0.0002	0.0006
		CO_2e	--	119,919
21	Tunnel Furnace 2	PM	0.2	0.5
		PM_{10}	0.2	0.5
		$PM_{2.5}$	0.2	0.5
		SO_2	0.2	0.5
		VOC	1.1	4.6
		CO	15.9	69.3
		NO_X	19.2	84.1
		Lead	0.0001	0.0005
		CO_2e	--	98,395

58. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be show by compliance with Specific Condition 61 and Plantwide Condition 5. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-20 and SN-21	Tunnel Furnaces	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU

59. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Plantwide Condition 5. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
20	Tunnel Furnace 1	Arsenic Cadmium Formaldehyde Manganese Mercury	0.00004 0.0003 0.02 0.00008 0.00005	0.0002 0.001 0.07 0.0004 0.0003
21	Tunnel Furnace 2	Arsenic Cadmium Formaldehyde Manganese Mercury	0.00005 0.0003 0.02 0.00009 0.00006	0.0003 0.002 0.08 0.0004 0.0003

60. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9. Compliance with this condition will be shown by combustion of natural gas only and Plantwide Condition 5.

Source	Limit	Regulatory Citation
20 and 21	5%	Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E

61. The permittee shall perform an initial stack test of both SN-20, and SN-21, for $PM_{2.5}$, CO, and NO_x emissions. This test shall be conducted in accordance with Plantwide Condition 3 and EPA Reference Method 202, 10, and 7E for $PM_{2.5}$, CO, and NO_x respectively and repeated every 5 years after the initial testing is performed. The test for $PM_{2.5}$ shall include filterable and condensable emissions. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

Cold Mill Operations

SN-22 Pickle Line Boiler
SN-23 Pickle Line Scale Dust
SN-23A Push Pull Pickle Line Tension Leveler
SN-24 Pickling Section
SN-24A Push Pull Pickle Line Pickling Section
SN-25 Pickling Line Tandem Cold Mill
SN-26 Galvanizing Line Boiler 1
SN-27 Galvanizing Line Boiler 2
SN-28 Galvanizing Line Preheater 1
SN-29 Galvanizing Line Preheater 2
SN-34 Galvanizing Line Caustic Cleaning 1
SN-35 Galvanizing Line Caustic Cleaning 2
SN-36 Galvanizing Line Post Treatment 1
SN-37 Galvanizing Line Post Treatment 2
SN-38 Skin Pass Mill
SN-39 Annealing Furnaces
SN-40 Decarburizing Line 1 Furnace Section
SN-41 Decarburizing Line 1 Cleaning Section
SN-42 Decarburizing Line 2 Furnace Section
SN-43 Decarburizing Line 2 Cleaning Section
SN-44 Reversing Cold Mill 3
SN-45 Reversing Cold Mill 1
SN-46 Reversing Cold Mill 2
SN-47 Annealing Pickling Line – Annealing Furnace
SN-48 Annealing Pickling Line – Scale Dust Exhaust
SN-49 Annealing Pickling Line – Shot Blast
SN-51 Annealing Coating Line - Annealing Furnace
SN-52 Annealing Coating Line – Cleaning Section
SN-53 Annealing Coating Line – Drying Furnace
SN-54 MgO Coating Line 1 – Drying Furnace
SN-55 MgO Coating Line 1 – Cleaning Section
SN-56 MgO Coating Line 2 – Drying Furnace
SN-57 MgO Coating Line 2 – Cleaning Section
SN-58 Final Annealing and Coating Line 1 – Furnace
SN-59 Final Annealing and Coating Line 1 – Cleaning Section
SN-60 Final Annealing and Coating Line 2 – Furnace
SN-61 Final Annealing and Coating Line 2 – Cleaning Section

Source Description

Pickling Line

Pickling Section, SN-24, pickling is the process that cleans a steel coil of its rust, dirt and oil so the metal can be further processed. The steel is uncoiled and sent through a series of hydrochloric acid baths that remove the oxides. The steel sheet is then rinsed and dried. A wet scrubber is used to control the HCl emissions.

The Pickling Line Tandem Cold Mill, SN-25, is a cold rolling process directly coupled with the pickling line. The process consists of removal of hot strip scale and a rolling operation to final material thickness. The steel coil is unwound and passed between a set of work rolls which will be pressed together by hydraulically-forced backup rolls. The oil emissions from the pickling line tandem cold mill will be reduced by a mist eliminator.

The Pickle Line Boiler, SN-22 is a 67 MMBTU/hr natural gas fired boiler which provides steam to the pickling line.

Pickle Line Scale Dust, SN-23, scale dust will be generated from the uncoiling, flattening and scale breaking of the steel. The scale dust emissions will be controlled by a fabric filter.

Galvanizing Line

The cold mill will incorporate two continuous galvanizing lines to produce galvanized strips. BRS has designed the galvanizing line to double as a continuous annealing line.

The Galvanizing Line Boilers 1 and 2, SN-26 and 27, are 24.5 MMBTU/hr each natural gas fired boilers which provide steam to the galvanizing line.

Galvanizing Line Preheaters 1 and 2, SN-28 and 29, are an 87.4 MMBTU/hr each natural gas fired heaters which provide heat for the galvanizing line.

Galvanizing Line Caustic Cleaning 1 and 2, SN- 34 and 35 are the post treatment sections of the galvanizing line. These sources are equipped with mist eliminators to reduce the emissions of particulate matter from caustic cleaning.

Galvanizing Line Post Treatment 1and 2, SN- 36 and 37 are the post treatment sections of the galvanizing line. These sources are equipped with mist eliminators to reduce the emissions of particulate matter from caustic cleaning.

The Off-line Skin Pass Mill, SN-38, adjusts the final mechanical properties, flatness, and surface finish of the cold rolled strip. A mist eliminator is used to reduce the particulate matter from the emulsion applied to the rolling material. The Skin Pass Mill can process 160 tons per hour of steel.

The Annealing Furnaces, SN-39, will consist of 15 annealing furnace bases each with a heat input value of 6.6 MMBTU/hr for a total of 98.25 MMBTU/hr. The entire annealing cycle will take about 54 hours

Decarburizing Line

The decarburizing lines reduce the carbon content at intermediate strip thickness. The decarburizing line consists of two sections the cleaning section, SN-41 and 43, and the furnace secton.SN-40 and 42. Each of the two decarburization line is capable of processing 30 tons of steel per hour. The furnace sections are natural gas fired burners with a heat input of 22 MMBTU/hr each.

Reversing Cold Mill

The Reversing Cold Mill 1, 2, and 3, SN-45, 46, and 44 reduce the thickness of the steel to the desired specifications. Each rolling mill is capable of processing 45 tons per hour of steel. A set of rolls applies pressure to the steel while maintaining the shape and width. The steel runs back and forth between rollers which reduce the thickness further with each pass. As the steel passes through the rolls, it is re-coiled onto the delivery tension reel. From there it goes back through the rolls in reverse reducing the steel thickness further. An emulsion is added to the strip surface during the rolling. Mist eliminators are employed to reduce emissions of particulate matter.

Annealing Pickling Line

Annealing Pickling Line – Annealing Furnace, SN-47, is a 66 MMBTU/hr natural gas fired heater to provide heat to the annealing pickling line for hot strip annealing.

Annealing Pickling Line – Scale Dust Exhaust, SN-48, this process will involve removal of scale from the steel strip surface. A fabric filter will be used to reduce scale dust emissions.

Annealing Pickling Line – Shot Blast, SN-49, is the mechanical cleaning at the annealing pickling section with a shot blast machine. A fabric filter will be used to reduce emissions from the shot blast machine.

Annealing Pickling Line - Pickling Section, SN-50, pickling is the process that cleans a steel coil of its rust, dirt and oil so the metal can be further processed. A wet scrubber is used to control HCl emissions.

Annealing Coating Line

The annealing coating line will be used for annealing of the cold roll steel strip and application of an insulating coating.
Annealing Coating Line - Annealing Furnace, SN-51, is a 50 MMBTU/hr natural gas fired annealing furnace in the annealing coating line.

Annealing Coating Line – Cleaning Section, SN-52, uses a caustic solution to clean the steel. A mist eliminator is used to reduce emissions.

Annealing Coating Line – Drying Furnace, SN-53, is a 38 MMBTU/hr natural gas fired combustion device. An insulating coating is applied to the steel. An RTO will be used to reduce VOC emissions from the insulating coating.

MgO Coating Lines

The MgO coating apply magnesia to the strip steel surface. The application of this material is required to avoid the steel sticking during high temperature annealing. There are two MgO coating lines each with a furnace section and a cleaning section.

MgO Coating Line 1 – Drying Furnace, SN-54, is a 38 MMBTU/hr natural gas fired combustion device used to provide heat to the MgO coating line.

MgO Coating Line 1 – Cleaning Section, SN-55, uses sodium hydroxide to clean the strip steel. A mist eliminator is used to reduce emissions.

MgO Coating Line 2 – Drying Furnace, SN-56, is a 38 MMBTU/hr natural gas fired combustion device used to provide heat to the MgO coating line.

MgO Coating Line 2 – Cleaning Section, SN-57, uses sodium hydroxide to clean the strip steel. A mist eliminator is used to reduce emissions.

Final Annealing and Coating Lines

The Final Annealing and Coating Lines, which are also commonly called "flattening and coating lines" are used to coat the steel strip with an insulation layer and subsequent flatness improvements. The process line does involve an annealing process. This is the final step in producing a grain oriented product.

Final Annealing and Coating Line 1 – Furnace, SN-58, is natural gas fired and has a maximum heat input of 32 MMBTU/hr.

Final Annealing and Coating Line 1 – Cleaning Section, SN-59, is a cleaning and pickling section which uses hydrochloric acid to clean the steel strip. A wet scrubber will be used to help control emissions.

Final Annealing and Coating Line 2 – Furnace, SN-60, is natural gas fired and has a maximum heat input of 32 MMBTU/hr.

Final Annealing and Coating Line 2 – Cleaning Section, SN-61, is a cleaning and pickling section which uses hydrochloric acid to clean the steel strip. A wet scrubber will be used to help control emissions.

Specific Conditions

62. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 66 through 75. [Regulation 19 §19.901 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
22	Pickle Line Boiler	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.4 5.6 2.4 0.00004 --	0.2 0.2 0.2 0.2 1.6 24.2 10.3 0.0002 34,336
23	Pickle Line Scale Dust	PM PM_{10} $PM_{2.5}$	1.0 1.0 1.0	4.4 4.4 4.4
23A	Push Pull Pickle Line Tension Leveler Scale Dust Exhaust	PM PM_{10} $PM_{2.5}$	0.4 0.4 0.4	1.7 1.7 1.7
25	Tandem Cold Mill	PM PM_{10} $PM_{2.5}$	4.8 12.5 12.5	14.4 37.9 37.9
26	Galvanizing Line Boiler 1	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.2 2.1 0.9 0.00002 --	0.1 0.1 0.1 0.1 0.6 8.9 3.8 0.00006 12,556

SN	Description	Pollutant	lb/hr	tpy
27	Galvanizing Line Boiler 2	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.2 2.1 0.9 0.00002 --	0.1 0.1 0.1 0.1 0.6 8.9 3.8 0.00006 12,556
28	Galvanizing Line Preheater 1	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.5 7.2 3.1 0.00005 --	0.2 0.2 0.2 0.3 2.1 31.6 13.4 0.0002 44,790
29	Galvanizing Line Preheater 2	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.5 7.2 3.1 0.00005 --	0.2 0.2 0.2 0.3 2.1 31.6 13.4 0.0002 44,790
34	Galvanizing Line Caustic Cleaning 1	PM PM_{10} $PM_{2.5}$	0.2 0.2 0.2	0.9 0.9 0.9
35	Galvanizing Line Caustic Cleaning 2	PM PM_{10} $PM_{2.5}$	0.2 0.2 0.2	0.9 0.9 0.9
36	Galvanizing Line Post Treatment 1	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.3 0.3 0.3
37	Galvanizing Line Post Treatment 2	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.3 0.3 0.3
38	Skin Pass Mill	PM PM_{10} $PM_{2.5}$	0.6 1.5 1.5	1.8 4.6 4.6

SN	Description	Pollutant	lb/hr	tpy
39	Annealing Furnaces	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.1 0.1 0.1 0.1 0.6 8.1 9.9 0.00005 --	0.3 0.3 0.3 0.3 2.4 35.5 43.1 0.0003 50,351
40	Decarburizing Line 1 Furnace Section	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.5 0.5 0.5 0.1 0.2 3.0 3.6 0.00002 --	2.1 2.1 2.1 0.1 0.9 13.0 15.8 0.00008 18,449
41	Decarburizing Line 1 Cleaning Section	PM PM_{10} $PM_{2.5}$	0.3 0.3 0.3	1.2 1.2 1.2
42	Decarburizing Line 2 Furnace Section	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.3 0.3 0.3 0.1 0.2 1.9 2.2 0.00002 --	1.3 1.3 1.3 0.1 0.6 8.0 9.7 0.00005 11,274
43	Decarburizing Line 2 Cleaning Section	PM PM_{10} $PM_{2.5}$	0.3 0.3 0.3	1.1 1.1 1.1
44	Reversing Cold Mill 3	PM PM_{10} $PM_{2.5}$	1.5 4.0 4.0	4.6 12.1 12.1
45	Reversing Cold Mill 1	PM PM_{10} $PM_{2.5}$	1.5 4.0 4.0	4.6 12.1 12.1
46	Reversing Cold Mill 2	PM PM_{10} $PM_{2.5}$	1.5 4.0 4.0	4.6 12.1 12.1

SN	Description	Pollutant	lb/hr	tpy
47	Annealing Pickling Line – Annealing Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.9 0.9 0.9 0.1 0.4 5.5 6.6 0.00004 --	3.8 3.8 3.8 0.2 1.6 23.9 29.0 0.0002 33,823
48	Annealing Pickling Line – Scale Dust Exhaust	PM PM_{10} $PM_{2.5}$	0.7 0.7 0.7	3.0 3.0 3.0
49	Annealing Pickling Line – Shot Blast	PM PM_{10} $PM_{2.5}$	0.7 0.7 0.7	3.0 3.0 3.0
51	Annealing Coating Line - Annealing Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.6 0.6 0.6 0.1 0.3 3.8 4.6 0.00003 --	2.7 2.7 2.7 0.2 1.1 17.6 20.2 0.0002 23,574
52	Annealing Coating Line – Cleaning Section	PM PM_{10} $PM_{2.5}$	0.3 0.3 0.3	1.1 1.1 1.1
53	Annealing Coating Line – Drying Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.3 0.3 0.3 0.1 0.5 1.5 1.8 0.000009 --	1.1 1.1 1.1 0.1 2.4 6.5 7.9 0.00004 9,225

SN	Description	Pollutant	lb/hr	tpy
54	MgO Coating Line 1 – Drying Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.2 0.2 0.2 0.1 0.1 1.2 1.4 0.000007 --	0.8 0.8 0.8 0.1 0.4 4.8 5.9 0.00003 6,816
55	MgO Coating Line 1 – Cleaning Section	PM PM_{10} $PM_{2.5}$	0.3 0.3 0.3	1.1 1.1 1.1
56	MgO Coating Line 2 – Drying Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.2 0.2 0.2 0.1 0.1 1.2 1.4 0.000007 --	0.8 0.8 0.8 0.1 0.4 4.8 5.9 0.00003 6,816
57	MgO Coating Line 2 – Cleaning Section	PM PM_{10} $PM_{2.5}$	0.3 0.3 0.3	1.1 1.1 1.1
58	Final Annealing and Coating Line 1 – Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.5 0.5 0.5 0.1 0.2 2.7 3.2 0.00002 --	1.9 1.9 1.9 0.1 0.8 11.6 14.1 0.00007 16,399
60	Final Annealing and Coating Line 2 – Furnace	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X Lead CO_2e	0.5 0.5 0.5 0.1 0.2 2.7 3.2 0.00002 --	1.9 1.9 1.9 0.1 0.8 11.6 14.1 0.00007 16,399

63. The permittee shall not exceed the emission rates set forth in the following table and must install the control devices or implement the pollution prevention measures set forth in the following table.   Compliance with this condition will be show by compliance with Specific Conditions 66 through 75. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-22	Pickle Line Boiler	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.035 lb/MMBTU
		GHG	Good operating practices Minimum Boiler Efficiency	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU 75%
SN-23	Pickle Line Scale Exhaust	PM	Fabric Filter	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-23A	Tension Leveler Dust Exhaust	PM	Fabric Filter	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-25	Tandem Cold Mill	PM	Mist Eliminator	0.0025 gr/dscf (filterable only)
		PM_{10}		0.0066 gr/dscf
		$PM_{2.5}$		0.0066 gr/dscf
		Opacity		5%
SN-26, SN-27	Galvanizing Line Boilers	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.035 lb/MMBTU
		GHG	Good operating practices Minimum Boiler Efficiency	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU 75%
SN-28, SN-29	Galvanizing Line Preheater	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	SCR, Low NOx burners Combustion of clean fuel Good Combustion Practices	0.035 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-34, SN-35, SN-36, SN-37	Galvanizing Line Caustic Cleaning and Post Treatment	PM	Mist Eliminator	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-38	Skin Pass Mill	PM	Mist Eliminator	0.0025 gr/dscf
		PM_{10}		0.0066 gr/dscf
		$PM_{2.5}$		

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		Opacity		5%
SN-39	Annealing Furnaces	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-40, SN-42	Decarburizing Line Furnace Section	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners SCR Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-41, SN-43	Decarburizing Line Cleaning Sections	PM	Mist Eliminator	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-44, SN-45, SN-46	Reversing Cold Mills	PM	Mist Eliminator	0.0025gr/dscf
		PM_{10}		0.0066 gr/dscf
		$PM_{2.5}$		
		Opacity		5%
SN-47	Annealing Pickling Line Furnace Section	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners SCR Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-48, SN-49	Annealing Pickling Line Scale Dust Exhaust and Shotblast	PM	Fabric Filter	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-51	Annealing Coating Line Furnace Section	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		NO_X	Low NOx burners SCR Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-52	Annealing Coating Line Cleaning Section	PM	Mist Eliminator	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-53	Annealing Coating Line Drying Furnace	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		CO		0.0824 lb/MMBTU
		VOC Natural gas Combustion	RTO	0.0054 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-54, SN-56	MgO Coating Lines Drying Sections	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU
SN-55, SN-57	MgO Coating Lines Cleaning Sections	PM	Mist Eliminator	0.003 gr/dscf
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-58, SN-60	Final Annealing and Coating Lines Furnace Sections	PM	Combustion of Natural gas and Good Combustion Practice	0.00052 lb/MMBTU
		PM_{10}		0.00052 lb/MMBTU
		$PM_{2.5}$		0.00052 lb/MMBTU
		Opacity		5%
		SO_2		0.000588 lb/MMBTU
		VOC		0.0054 lb/MMBTU
		CO		0.0824 lb/MMBTU
		NO_X	Low NOx burners SCR Combustion of clean fuel Good Combustion Practices	0.1 lb/MMBTU
		GHG	Good operating practices	CO_2 117 lb/MMBTU CH_4 0.0022 lb/MMBTU N_2O 0.0002 lb/MMBTU

64. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Plantwide Condition 5. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
22	Pickle Line Boiler	Arsenic	0.00002	0.00006
		Cadmium	0.00008	0.0004
		Formaldehyde	0.005	0.03
		Manganese	0.00003	0.0002
		Mercury	0.00002	0.00008
24	Pickling Section	HCl	0.2	0.6
24A	Push Pull Pickle Line Pickling Section	HCl	0.2	0.8
26	Galvanizing Line Boiler 1	Arsenic	0.000005	0.00003
		Cadmium	0.00003	0.0002
		Formaldehyde	0.002	0.008
		Manganese	0.00001	0.00004
		Mercury	0.000007	0.00003
27	Galvanizing Line Boiler 2	Arsenic	0.000005	0.00003
		Cadmium	0.00003	0.0002
		Formaldehyde	0.002	0.008
		Manganese	0.00001	0.00004
		Mercury	0.000007	0.00003
28	Galvanizing Line Preheater 1	Arsenic	0.00002	0.00008
		Cadmium	0.0001	0.0004
		Formaldehyde	0.007	0.03
		Manganese	0.00004	0.0002
		Mercury	0.00003	0.0001
29	Galvanizing Line Preheater 2	Arsenic	0.00002	0.00008
		Cadmium	0.0001	0.0004
		Formaldehyde	0.007	0.03
		Manganese	0.00004	0.0002
		Mercury	0.00003	0.0001
39	Annealing Furnaces	Arsenic	0.00002	0.00009
		Cadmium	0.0002	0.0005
		Formaldehyde	0.008	0.04
		Manganese	0.00004	0.0002
		Mercury	0.00003	0.0002
40	Decarburizing Line 1 Furnace Section	Arsenic	0.000008	0.00004
		Cadmium	0.00004	0.0002
		Formaldehyde	0.003	0.02
		Manganese	0.00002	0.00006
		Mercury	0.00001	0.00005

SN	Description	Pollutant	lb/hr	tpy
42	Decarburizing Line 2 Furnace Section	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000005 0.00003 0.002 0.000009 0.000006	0.00002 0.0002 0.008 0.00004 0.00003
47	Annealing Pickling Line – Annealing Furnace	Arsenic Cadmium Formaldehyde Manganese Mercury	0.00002 0.00008 0.005 0.00003 0.00002	0.00006 0.00004 0.003 0.0002 0.00008
50	Annealing Pickling Line Pickling Section	HCl	0.2	0.7
51	Annealing Coating Line - Annealing Furnace	Arsenic Cadmium Formaldehyde Manganese Mercury	0.00001 0.00005 0.004 0.00002 0.00002	0.00004 0.0003 0.02 0.00008 0.00006
53	Annealing Coating Line – Drying Furnace	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000004 0.00002 0.002 0.000007 0.000005	0.00002 0.00009 0.006 0.00003 0.00003
54	MgO Coating Line 1 – Drying Furnace	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000003 0.00002 0.001 0.000005 0.000004	0.00002 0.00007 0.005 0.00003 0.00002
56	MgO Coating Line 2 – Drying Furnace	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000003 0.00002 0.001 0.000005 0.000004	0.00002 0.00007 0.005 0.00003 0.00002
58	Final Annealing and Coating Line 1 – Furnace	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000007 0.00004 0.003 0.00002 0.000009	0.00003 0.0002 0.002 0.00006 0.00004
59	Final Annealing and Coating Line 1 – Cleaning Section	HCl	0.2	0.7

SN	Description	Pollutant	lb/hr	tpy
60	Final Annealing and Coating Line 2 – Furnace	Arsenic Cadmium Formaldehyde Manganese Mercury	0.000007 0.00004 0.003 0.00002 0.000009	0.00003 0.0002 0.002 0.00006 0.00004
61	Final Annealing and Coating Line 2 – Cleaning Section	HCl	0.2	0.7

65. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
SN-22, 23, 23A, 25, 26, 27, 28, 29, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 51, 52, 53, 54, 55, 56, 57, 58, 60	5%	Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E

66. The permittee shall conduct weekly observations of the opacity from the buildings containing the sources listed in Specific Condition 65. If visible emissions are detected, then the permittee shall immediately conduct a 6-minute opacity reading in accordance with EPA Reference Method 9. The result of these observations or readings shall be recorded in a log which shall be kept on site and made available for inspection upon request. [§19.705 of Regulation 19 and 40 CFR 52, Subpart E]The permittee shall record and monthly maintain records of the amounts of natural gas combusted in the boilers, SN-22, SN-26, and SN-27, during each month. These records shall be kept on site and available for inspection upon request. [§19.304 and 40 CFR Part 60 Subpart Dc]

67. The permittee for the annealing and coating line dryer, SN-52, on and after the compliance date on which 40 CFR 60.8 requires the performance test to be completed shall not cause to be discharged to the atmosphere more than: 0.14 kg VOC/l of coating solids applied or 10% of the VOC's applied (90% emissions reduction) for each calendar month operated at the most recently demonstrated overall efficiency. [§19.304 and 40 CFR Part 60 Subpart TT]

68. The permittee shall conduct an initial performance test as required under 40 CFR 60.8(a) and thereafter a performance test every calendar month for the annealing and coating line

according to the procedures of 40 CFR 60.463. The permittee shall use the procedures specified in 40 CFR 60.463(c) (1) for determining the monthly volume-weighted average emissions of VOC's in kg/l of coating solids applied. The permittee shall use the procedures specified in 40 CFR 60.463(c) (2) to show compliance with the emission limits specified under 40 CFR 60.462(a)(2) or (3) and Specific Condition 67. The permittee shall use the method and procedures outlined in 40 CFR 60.466 during these tests as appropriate. NSPS Subpart TT states section 40 CFR 60.8 (d) and (f) do not apply to this testing. The initial testing must be conducted in accordance with General Provision 3 of this permit. [§19.304 and 40 CFR Part 60 Subpart TT]

69. The permittee shall where the compliance with the numerical limit specified in 60.462(a)(2) shall compute and record the average VOC content of the coatings applied during each calendar month for the annealing and coating line according the equations in 40 CFR 60.463. [§19.304 and 40 CFR Part 60 Subpart TT]

70. The permittee shall install, calibrate, operate, and maintain a device that continuously records the combustion temperature of the effluent gasses of the RTO on SN-52. This device shall have an accuracy ±2.5°C or ±0.75 percent of the temperature being measured expressed in degrees Celsius, whichever is greater. The permittee shall record all periods (during actual coating operations) in excess of 3 hours duration which the average temperature in the RTO remains more than 28°C below the temperature at which the compliance was measured in the most recent measurement of the RTOs efficiency required in Specific Condition 68. [§19.304 and 40 CFR Part 60 Subpart TT]

71. The permittee shall in the initial compliance report required by 40 CFR 60.8 include the weighted average of the VOC content of coatings used during a period of one calendar month for the annealing and coating line. The permittee shall also include the data outlined in 40 CFR 60.465(b). [§19.304 and 40 CFR Part 60 Subpart TT]

72. The permittee shall test the Boilers SN-22, 26, and 27 for $PM_{2.5}$, CO, and NO_x emissions. This test shall be conducted in accordance with Plantwide Condition 3 and EPA Reference Method 202, 10, and 7E for $PM_{2.5}$, CO, and NO_x respectively and repeated every 5 years after the initial test. The test for $PM_{2.5}$ shall include filterable and condensable emissions. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

73. The permittee shall test the sources in the table below for $PM_{2.5}$, and PM_{10}. This test shall be conducted in accordance with Plantwide Condition 3 and EPA Reference Method 202, 10, and 7E for $PM_{2.5}$ and PM_{10}. The test for $PM_{2.5}$ shall include filterable and condensable emissions. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

Source
Either 28 or 29
39

Source
Either 51, 58, or 60
53
Either 54 or 56

74. The permittee shall install operate and maintain a non-resettable hour meter on SN-25, the Tandem Cold Mill; SN-38, the Skin Pass Mill; SN-44, 45, and 46 the Rolling Mills. The hour meters shall record all time when steel is moving through its respective mill. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

75. The permittee shall not operate the following sources more than the hour limits specified in the table below. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

Source	Limit Hours per year
25	6080
38	6080
44	6080
45	6080
46	6080

76. The permittee shall maintain records of the hours of operation of SN-25, 38, 44, 45, and 46 each month. These records shall be updated by the 15^{th} day of the month following the month that the records represent, kept on site, made available to Department personnel upon request and in accordance with General Provision 7. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

77. The permittee shall test SN-24, 24A, 50, 59, and 61 for HCl emissions. This test shall be conducted in accordance with Plantwide Condition 3 and EPA Reference Method 26. [Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

78. The permittee shall test SN-28 and 29 for NO_X emissions. This test shall be conducted in accordance with Plantwide Condition 3 and EPA Reference Method 7E and repeated annually thereafter. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

Emergency Engines

SN-62 Emergency Generator 1, Diesel Fired, 625 hp
SN-63 Emergency Generator 2, Diesel Fired, 1500 kW
SN-64 Emergency Generator 3, Diesel Fired, 1500 kW
SN-65 Emergency Generator 4, Diesel Fired, 1500 kW
SN-66 Emergency Generator 5, Diesel Fired, 1500 kW
SN-67 Emergency Generator 6, Diesel Fired, 1500 kW

Source Description

The emergency generators are diesel fired generators which provide electrical power in the event of power failure.

Specific Conditions

79. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance Specific Conditions 83 and 85 through 89. [Regulation 19 §19.901 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
62	Emergency Generator 1 Diesel Fired, 625 hp	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X CO_2e	0.1 0.1 0.1 5.1 1.5 3.6 0.4 --	0.1 0.1 0.1 0.3 0.1 0.2 0.1 32
63	Emergency Generator 2 Diesel Fired, 1500 kW	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X CO_2e	0.3 0.3 0.3 16.3 1.4 11.9 2.2 --	0.1 0.1 0.1 0.9 0.1 0.6 0.1 119

SN	Description	Pollutant	lb/hr	tpy
64	Emergency Generator 3 Diesel Fired, 1500 kW	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X CO_2e	0.3 0.3 0.3 16.3 1.4 11.9 2.2 --	0.1 0.1 0.1 0.9 0.1 0.6 0.1 119
65	Emergency Generator 4 Diesel Fired, 1500 kW	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X CO_2e	0.3 0.3 0.3 16.3 1.4 11.9 2.2 --	0.1 0.1 0.1 0.9 0.1 0.6 0.1 119
66	Emergency Generator 5 Diesel Fired, 1500 kW	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X CO_2e	0.3 0.3 0.3 16.3 1.4 11.9 2.2 --	0.1 0.1 0.1 0.9 0.1 0.6 0.1 119
67	Emergency Generator 6 Diesel Fired, 1500 kW	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_X CO_2e	0.3 0.3 0.3 16.3 1.4 11.9 2.2 --	0.1 0.1 0.1 0.9 0.1 0.6 0.1 119

80. The permittee shall not exceed the emission rates set forth in the following table and must install the control devices or implement the pollution prevention measures set forth in the following table. Compliance with this condition will be show by compliance with Specific Conditions 83 and 85 through 89. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-62	Emergency Generator #1	PM	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.02 g/kW-Hr
		PM_{10}		0.02 g/kW-Hr
		$PM_{2.5}$		0.02 g/kW-Hr
		Opacity		20%
		SO_2		<0.0015% sulfur in fuel
		VOC		0.19 g/kW-Hr
		CO		3.5 g/kW-Hr
		NO_X		0.4 g/kW-Hr
		GHG	Good Combustion Practices	CO_2 163 lbs/MMBTU CH_4 0.0061 lbs/MMBTU N_2O 0.0013 lbs/MMBTU
SN-63 through 67	Emergency Generators 2 through 6	PM	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.04 g/kW-Hr
		PM_{10}		0.04 g/kW-Hr
		$PM_{2.5}$		0.04 g/kW-Hr
		Opacity		20%
		SO_2		<0.0015% sulfur in fuel
		VOC		0.19 g/kW-Hr
		CO		3.5 g/kW-Hr
		NO_X		0.67 g/kW-Hr
		GHG	Good Combustion Practices	CO_2 163 lbs/MMBTU CH_4 0.0061 lbs/MMBTU N_2O 0.0013 lbs/MMBTU

81. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 83 and 85 through 89. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
62	Emergency Generator 1 Diesel Fired, 625 hp	H_2SO_4	0.4	0.1
63	Emergency Generator 2 Diesel Fired, 1500 kW	H_2SO_4	1.2	0.1
64	Emergency Generator 3 Diesel Fired, 1500 kW	H_2SO_4	1.2	0.1
65	Emergency Generator 4 Diesel Fired, 1500 kW	H_2SO_4	1.2	0.1
66	Emergency Generator 5 Diesel Fired, 1500 kW	H_2SO_4	1.2	0.1

SN	Description	Pollutant	lb/hr	tpy
67	Emergency Generator 6 Diesel Fired, 1500 kW	H_2SO_4	1.2	0.1

82. The permittee shall not exceed 20% opacity from the Sources SN-62, 63, 64, 65, 66, and 67. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

83. The permittee shall not operate any single emergency engine, SN-62, 63, 64, 65, 66, and 67 more than 100 hours in any consecutive 12 month period. The permittee shall maintain records of the hours of operation of each generator each month. These records shall be updated by the 15th day of the month following the month that the records represent, kept on site, made available to Department personnel upon request and in accordance with General Provision 7. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

84. The permittee shall comply with the provisions of 40 CFR Part 63 Subpart ZZZZ for SN-62, 63, 64, 65, 66, and 67 by complying with the provisions of 40 CFR Part 60 Subpart IIII. [§19.304 of and 40 CFR Part 63, Subpart ZZZZ]

85. The permittee shall comply with the emissions standards specified in §60.4202 of 40 CFR Part 60 Subpart IIII for SN-62, 63, 64, 65, 66, and 67. The permittee shall operate and maintain the emergency generators, SN-62, 63, 64, 65, 66, and 67 according to the manufacturer's written instruction or procedures developed by the permittee and approved by the generator manufacturer, over the life of the entire engine. [§19.304 of and 40 CFR Part 60, Subpart IIII]

86. The permittee shall install a non-resettable hour meter on the Emergency Generators, SN-62, 63, 64, 65, 66, and 67. [§19.304 of and 40 CFR Part 60, Subpart IIII]

87. The permittee shall use a diesel fuel that meets the requirements of 40 CFR 80.510(b) in the Emergency Generators, SN-62, 63, 64, 65, 66, and 67. [§19.304 of and 40 CFR Part 60, Subpart IIII]

88. If the Emergency Generators, SN-62, 63, 64, 65, 66, and 67 are equipped with a diesel particulate filter to comply with emission standards, the diesel particulate filter must be installed with a back pressure monitor that notifies the permittee when the high backpressure limit of the engine is approached. [§19.304 of and 40 CFR Part 60, Subpart IIII]

89. The permittee may only operate the Emergency Generators, SN-62, 63, 64, 65, 66, and 67, 100 hours in any consecutive 12 month period for maintenance checks and readiness testing. The permittee shall maintain monthly records of the usage of the generator. [§19.304 of and 40 CFR Part 60, Subpart IIII]

Cooling Towers

SN-68 Non-Contact Cooling Tower 1 – Melt Shop
SN-69 Non-Contact Cooling Tower 2 – Melt Shop
SN-70 Non-Contact Cooling Tower 3 – Caster and Hot Mill
SN-71 Non-Contact Cooling Tower 4 – Caster and Hot Mill
SN-72 Non-Contact Cooling Tower 5 – Cold Mill
SN-73 Non-Contact Cooling Tower 6 – Cold Mill
SN-74 Contact Cooling Tower 1 – Melt Shop
SN-75 Contact Cooling Tower 2 – Melt Shop
SN-76 Contact Cooling Tower 3 – Caster and Hot Mill
SN-77 Contact Cooling Tower 4 – Caster and Hot Mill
SN-78 Contact Cooling Tower 5 – Caster and Hot Mill
SN-79 Contact Cooling Tower 6 – Laminar

Source Description

The facility has a number of cooling towers which remove heat from process water.

SN-68 is a 3 million gallon per hour Non-Contact Cooling Tower at the Melt Shop

SN-69 is a 4.32 million gallon per hour Non-Contact Cooling Tower at the Melt Shop

SN-70 is a 1.2 million gallon per hour Non-Contact Cooling Tower at the Caster and Hot Mill

SN-71 is a 660.000 gallon per hour Non-Contact Cooling Tower at the Caster and Hot Mill

SN-72 is a 0.9 million gallon per hour Non-Contact Cooling Tower at the Cold Mill

SN-73 is a 2.1 million gallon per hour Non-Contact Cooling Tower at the Cold Mill

SN-74 is a 204,000 gallon per hour Contact Cooling Tower at the Melt Shop

SN-75 is a 204,000 gallon per hour Contact Cooling Tower at the Melt Shop

SN-76 is a 2.52 million gallon per hour Contact Cooling Tower at the Caster and Hot Mill

SN-77 is a 2.52 million gallon per hour Contact Cooling Tower at the Caster and Hot Mill

SN-78 is a 420,000 gallon per hour Contact Cooling Tower at the Caster and Hot Mill

SN-79 is a 1.62 million gallon per hour Contact Cooling Tower at the at the Laminar

Specific Conditions

90. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 92 and 91. [Regulation 19 §19.901 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
68	Non-Contact Cooling Tower 1 – Melt Shop	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.2 0.2 0.2
69	Non-Contact Cooling Tower 2 – Melt Shop	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.3 0.3 0.3
70	Non-Contact Cooling Tower 3 – Caster and Hot Mill	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.2 0.2 0.2
71	Non-Contact Cooling Tower 4 – Caster and Hot Mill	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.2 0.2 0.2
72	Non-Contact Cooling Tower 5 – Cold Mill	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.2 0.2 0.2
73	Non-Contact Cooling Tower 6 – Cold Mill	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.4 0.4 0.4
74	Contact Cooling Tower 1 – Melt Shop	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
75	Contact Cooling Tower 2 – Melt Shop	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
76	Contact Cooling Tower 3 – Caster and Hot Mill	PM PM_{10} $PM_{2.5}$	0.2 0.2 0.2	0.7 0.7 0.7
77	Contact Cooling Tower 4 – Caster and Hot Mill	PM PM_{10} $PM_{2.5}$	0.2 0.2 0.2	0.7 0.7 0.7
78	Contact Cooling Tower 5 – Caster and Hot Mill	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.2 0.2 0.2
79	Contact Cooling Tower 6 – Laminar	PM PM_{10} $PM_{2.5}$	0.2 0.2 0.2	0.5 0.5 0.5

91. The permittee shall not exceed the emission rates set forth in the following table and must install the control devices or implement the pollution prevention measures set forth in the

following table. Compliance with this condition will be show by compliance with Specific Condition 92 and 93. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-68 through 73	Non-Contact Cooling Towers	PM	Drift Eliminators Low TDS	0.0005 percent drift loss
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%
SN-73 through 79	Contact Cooling Towers	PM	Drift Eliminators Low TDS	0.0005 percent drift loss
		PM_{10}		
		$PM_{2.5}$		
		Opacity		5%

92. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 93. [Regulation 19 §19.901 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	TDS Limit
68	Non-Contact Cooling Tower 1 – Melt Shop	300
69	Non-Contact Cooling Tower 2 – Melt Shop	300
70	Non-Contact Cooling Tower 3 – Caster and Hot Mill	900
71	Non-Contact Cooling Tower 4 – Caster and Hot Mill	900
72	Non-Contact Cooling Tower 5 – Cold Mill	900
73	Non-Contact Cooling Tower 6 – Cold Mill	900
74	Contact Cooling Tower 1 – Melt Shop	1000
75	Contact Cooling Tower 2 – Melt Shop	1000
76	Contact Cooling Tower 3 – Caster and Hot Mill	1000

SN	Description	TDS Limit
77	Contact Cooling Tower 4 – Caster and Hot Mill	1000
78	Contact Cooling Tower 5 – Caster and Hot Mill	1000
79	Contact Cooling Tower 6 – Laminar	1000

93. The permittee test the TDS of each of the cooling towers initially and every 6 months thereafter. This testing shall be conducted in accordance with Plantwide Condition 3 with a method approved by the Department before the first test is performed.

Miscellaneous Operations

SN-80 Charging Crane
SN-81 Scrap Yard Stockpiling
SN-82 EAF Flux Receiving System
SN-83 EAF Flux Storage and Handling System
SN-84 Carbon Injection Receiving System
SN-85 Carbon Injection Storage and Handling System
SN-86 LMF Flux Receiving System
SN-87 LMF Flux Storage and Handling System
SN-88 Alloy Receiving System
SN-89 Alloy Storage and Handling System
SN-90 Alloy Delivery System – LMF
SN-92 Inside Drop Point - Spent Refractory and Other Waste
SN-93 Outside Drop Point - Spent Refractory and Other Waste
SN-94 Inside Drop Point – EAF Dust
SN-99 Wind Erosion

Source Description

Charging Crane, SN-80, loads scrap from the scrap yard for charging into the EAF.
Scrap Yard Stockpiling, SN-81, is the emissions from loading of scrap steel from trucks or railcars to the scrapyard.

The EAF Flux Receiving System, SN-82, includes the truck and rail unloading of the flux materials for the EAF.

The EAF Flux Storage and Handling System, SN-83, includes the transport and storage of the flux materials for the EAF. A total of 10 silos will store HBI/DRI, dolomite, and lime. Each silo will have a capacity of 9,000 ft^3 and will be equipped with bin vent filters.

Carbon Injection Receiving System, SN-84, includes the truck and rail unloading of the carbon for the carbon injection into the EAF.

Carbon Injection Storage and Handling System, SN-85, includes the transport and storage of the carbon for the carbon into the EAF. There are four storage silos, each with a capacity of 8,000 ft^3.

LMF Flux Receiving System, SN-86, includes the truck and rail unloading of the flux materials for the LMF.

LMF Flux Storage and Handling System, SN-87, includes the transport and storage of the flux materials for the EAF. A total of 6 silos will store bauxite, CAL/A, dolomite, and lime. Each silo will have a capacity of 9,000 ft^3 and will be equipped with bin vent filters.

Alloy Receiving System, SN-88, includes the truck and rail unloading of the alloy materials for the LMF.

Alloy Storage and Handling System, SN-89, includes the transport and storage of the alloy materials for the EAF. A total of seven silos will store FeSn, SiMn, FeCr. Each silo will have a capacity of 9,000 ft^3 and will be equipped with bin vent filters.

Alloy Delivery System – LMF, SN-90, Alloy materials (FeSn, SiMn, FeCr) will be used to support the LMF operations. A stocking pocket belt conveyor will also be used to transfer the materials from the silos to weight hoppers that will be used to load alloy materials into the LMF stations.

Alloy Deliver System – RH Degasser, SN-91. The alloy system will also be used to transport and feed alloy materials into the RH degasser. A stocking pocket conveyor will be used to transfer materials to the feed hoppers that will then be used to feed the RH degasser.

Inside Drop Point - Spent Refractory and Other Waste, SN-92, accounts for the emissions from placing of refractory material into the appropriate storage area/ container.

Outside Drop Point - Spent Refractory and Other Waste, SN-93, accounts for the placement of refractory material into outdoor storage area / container.

Inside Drop Point – EAF Dust, SN-94, accounts for the emissions of transfer of EAF baghouse dust into appropriate storage containers.

Wind Erosion, SN-99, is the emission from outdoor slag and storage piles due to wind erosion.

Specific Conditions

94. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition compliance with Specific Conditions 96 and 97 and Plantwide Condition 5. [Regulation 19 §19.901 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
80	Charging Crane	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
81	Scrap Yard Stockpiling	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.5 0.2 0.1
82	EAF Flux Receiving System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1

SN	Description	Pollutant	lb/hr	tpy
83	EAF Flux Storage and Handling System	PM PM_{10} $PM_{2.5}$	0.2 0.1 0.1	0.6 0.3 0.1
84	Carbon Injection Receiving System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
85	Carbon Injection Storage and Handling System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
86	LMF Flux Receiving System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
87	LMF Flux Storage and Handling System	PM PM_{10} $PM_{2.5}$	0.2 0.1 0.1	0.6 0.3 0.1
88	Alloy Receiving System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
89	Alloy Storage and Handling System	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
90	Alloy Delivery System – LMF	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
92	Inside Drop Point - Spent Refractory and Other Waste	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
93	Outside Drop Point - Spent Refractory and Other Waste	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
94	Inside Drop Point – EAF Dust	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
99A	Feed Stock Piles - Wind Erosion	PM PM_{10} $PM_{2.5}$	0.9 0.5 0.1	3.7 1.9 0.3

95. The permittee shall not exceed the emission rates set forth in the following table and must install the control devices or implement the pollution prevention measures set forth in the following table. Compliance with this condition will be show by compliance with Specific Conditions 96 and 97 and Plantwide Condition 5. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-82	EAF Flux Receiving System	PM PM_{10} $PM_{2.5}$	Dust Control Plan Enclosed Receiving System with Fabric Filter	0.003 gr/dscf
		Opacity		5%
SN-83	EAF Flux Storage and Handling System	PM PM_{10} $PM_{2.5}$	Dust Control Plan, Enclosed Conveyors with Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf 0.01 gr/dscf
		Opacity		5%
SN-84	Carbon Injection Receiving	PM PM_{10} $PM_{2.5}$	Dust Control Plan Enclosed Receiving System with Fabric Filter	0.003 gr/dscf
		Opacity		5%
SN-85	Carbon Injection Storage and Handling System	PM PM_{10} $PM_{2.5}$	Dust Control Plan, Enclosed Conveyors with Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf 0.01 gr/dscf
		Opacity		5%
SN-86	LMF Flux Receiving	PM PM_{10} $PM_{2.5}$	Dust Control Plan Enclosed Receiving System with Fabric Filter	0.003 gr/dscf
		Opacity		5%
87	LMF Flux Storage and Handling System	PM PM_{10} $PM_{2.5}$	Dust Control Plan, Enclosed Conveyors with Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf 0.01 gr/dscf
		Opacity		5%
88	Alloy Receiving System	PM PM_{10} $PM_{2.5}$	Dust Control Plan Enclosed Receiving System with Fabric Filter	0.003 gr/dscf
		Opacity		5%
89	Alloy Storage and Handling System	PM PM_{10} $PM_{2.5}$	Dust Control Plan, Enclosed Conveyors with Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf 0.01 gr/dscf
		Opacity		5%
90	Alloy Delivery System – LMF	PM PM_{10}	Dust Control Plan, Enclosed Conveyors	0.003 gr/dscf

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
		$PM_{2.5}$	with Fabric Filters Enclosed Receiving System with Fabric Filter Fabric Filters Silos with Bin Vent Filters	0.003 gr/dscf 0.01 gr/dscf
		Opacity		5%
92	Inside Drop Point - Spent Refractory and Other Waste	PM	Dust Control Plan	0.1 lb/hr, 0.1 tpy
		PM_{10}		0.1 lb/hr, 0.1 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
93	Outside Drop Point - Spent Refractory and Other Waste	PM	Dust Control Plan	0.1 lb/hr, 0.1 tpy
		PM_{10}		0.1 lb/hr, 0.1 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
94	Inside Drop Point – EAF Dust	PM	Dust Control Plan	0.1 lb/hr, 0.1 tpy
		PM_{10}		0.1 lb/hr, 0.1 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
95	Drop Points Slag	PM	Dust Control Plan	0.2 lb/hr, 0.8 tpy
		PM_{10}		0.1 lb/hr, 0.4 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
93	Outside Drop Point - Spent Refractory and Other Waste	PM	Dust Control Plan	0.1 lb/hr, 0.1 tpy
		PM_{10}		0.1 lb/hr, 0.1 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
94	Inside Drop Point – EAF Dust	PM	Dust Control Plan	0.1 lb/hr, 0.1 tpy
		PM_{10}		0.1 lb/hr, 0.1 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%
99A	Feed Stock Piles - Wind Erosion	PM	Dust Control Plan	0.9 lb/hr, 3.7 tpy
		PM_{10}		0.5 lb/hr, 1.9 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.3 tpy
		Opacity		20%
99B	Slag Piles – Wind Erosion	PM	Dust Control Plan	0.2 lb/hr, 0.6 tpy
		PM_{10}		0.1 lb/hr, 0.3 tpy
		$PM_{2.5}$		0.1 lb/hr, 0.1 tpy
		Opacity		20%

96. The permittee shall not receive more than material than in the table below in any consecutive rolling 12 month period. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

Source	Consecutive rolling 12 month limit
82	175,830
84	49,210
86	175,830
88	680,000
90	680,000

97. The permittee shall maintain monthly records of the amount of materials received in the sources in Specific Condition 96. These records shall include the monthly total of material received and the rolling 12 month total of material received. These records shall be updated by the 15th day of the month following the month to which the records pertain, kept on site, made available to Department personnel upon request, and submitted in accordance with General Provision 7. [Regulation 19, §19.901 et seq. and 40 CFR Part 52, Subpart E]

98. The permittee shall not discharge into the atmosphere any gases which exit from SN-94 which exceed 10 percent opacity or greater. [40 CFR, Part 60, Subpart AAa, and §19.304 of Regulation 19]

99. The permittee may install sealed conveyors or sealed pneumatic conveyors that have no vents to the atmosphere. The permittee is not required to vent the conveyors to a baghouse if no vent is needed.

100. The permittee shall implement a fugitive emission dust control plan to control dust emissions from the sources specified to require a dust control plan in Specific Condition 95 . The permittee shall submit for Department approval a fugitive dust control plan for the roadways six months after issuance of permit 2305-AOP-R0.

Slag Handling

SN-95 Drop Points Slag
SN- 96 Slag Handling and Conveying
SN-99B Slag Storage Piles

Specific Conditions

101. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 102 and 98. [Regulation 19 §19.901 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
95	Drop Points Slag	PM PM_{10} $PM_{2.5}$	0.2 0.1 0.1	0.8 0.4 0.1
96	Slag Handling and Conveying	PM PM_{10} $PM_{2.5}$	0.2 0.1 0.1	0.5 0.2 0.1
99B	Slag Storage Piles	PM PM_{10} $PM_{2.5}$	0.2 0.1 0.1	0.6 0.3 0.1

102. The permittee shall not process more than 476,980 tons of slag in any consecutive rolling 12 month period. [Regulation 19 §19.901 and 40 CFR Part 52, Subpart E]

103. The permittee shall maintain monthly records of the amount of slag processed. These records shall include the monthly total of slag processed and the rolling 12 month total of slag processed. These records shall be updated by the 15th day of the month following the month to which the records pertain, kept on site, made available to Department personnel upon request, and submitted in accordance with General Provision 7. [Regulation 19 §19.901 and 40 CFR Part 52, Subpart E]

104. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
SN-95 SN-96 SN-99A	20%	§19.901 of Regulation 19 and 40 CFR, Part 52, Subpart E

105. The permittee shall conduct weekly observations of the opacity from each slag processing transfer point and conveyor at the slag processing area. If visible emissions are detected, the permittee shall conduct a 6-minute opacity reading in accordance with Method 9 at the point where visible emissions were detected. The results of these observations shall be recorded in a log which shall be kept on site and made available for inspection upon request. [§19.901 of Regulation 19 and 40 CFR Part 52, Subpart E]

Roadway Sources

SN-97 and SN-98

Paved and Unpaved Roadways

Source Description

SN-97 accounts for emissions from unpaved roadways and SN-98 accounts for emission from Paved Roadways

Specific Conditions

106. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be shown by application of dust suppressant as necessary to control dust emissions. [§19.901 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
97	Paved Roads	PM PM_{10} $PM_{2.5}$	0.7 0.2 0.1	2.9 0.6 0.2
98	Unpaved Roads	PM PM_{10} $PM_{2.5}$	2.2 0.6 0.1	9.6 2.6 0.3

107. Dust suppression activities should be conducted in a manner and at a rate of application that will not cause runoff from the area being applied. Best Management Practices (40 CFR §122.44(k)) should be used around streams and waterbodies to prevent the dust suppression agent from entering Waters of the State. Except for potable water, no agent shall be applied within 100 feet of wetlands, lakes, ponds, springs, streams, or sinkholes. Failure to meet this condition may require the permittee to obtain a National Pollutant Discharge Elimination System (NPDES) permit in accordance with 40 CFR §122.1(b). [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

108. The permittee shall implement a fugitive emission dust control plan to control dust emissions from the roadways. The permittee shall submit for Department approval a fugitive dust control plan for the roadways six months after issuance of permit 2305-AOP-R0.

SECTION V: COMPLIANCE PLAN AND SCHEDULE

Big River Steel LLC 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 §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 startup 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) business days in advance of such test. The permittee shall submit the compliance test results to the Department within thirty (30) calendar 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 §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 §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 §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 §8-4-304 and §8-4-311]

7. The permittee shall install, operate, and maintain ambient air monitors for PM_{10}, $PM_{2.5}$, and NO_2. The permittee shall submit a monitoring protocol to the Department within 180 days of the anticipated startup date of the facility. The Department must approve of the

monitoring protocol prior to installation of the monitors. The monitors shall be installed and operating within 180 days of the startup of the EAFs. [§19.901 et seq. and 40 CFR Part 52, Subpart E]

8. The permittee shall for all baghouses prior to installation at the facility calculate the emissions (lb/hr and tpy) based on the BACT grain loading limit and the final design air flow rate of the baghouse. The permittee shall compare the calculated emission rates based on the final design to the permitted lb/hr and tpy emission rates. If the new calculated rates are higher the permittee shall submit a permit modification to address the difference in the permitted rates and calculated rates. The permittee shall keep a record of the calculation on site, make them available to Department personnel upon request submit in accordance with General Provision 7. [' 19.901 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) effective February 15, 1999 and 40 CFR Part 52, Subpart E]

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 Reg.26.304 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated July 23, 2015.

Description	Category
Reformer Furnace (PHG250)	A-1
Water Bath Vaporizer	A-1
Tundish Dryer	A-1
Continuous Galvanizing Line Dryer	A-1
Induced Draft Mechanical Cooling Tower	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 Regulation 26 §26.701(B)]

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)]

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 the permit establishes no other reporting period, the reporting period shall end on the last day of the month six months after the issuance of the initial Title V permit and every six months thereafter. The report is due on the first day of the second month after the end of the reporting period. The first report due after issuance of the initial Title V permit shall contain six months of data and each report thereafter shall contain 12 months of data. The report shall contain data for all monitoring requirements in effect during the reporting period. If a monitoring requirement is not in effect for the entire reporting period, only those months of data in which the monitoring requirement was in effect are required to be reported. 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 CFR 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 Regulation19, § 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 §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. If the 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 on the first day of the second month after the end of the reporting period. 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 §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 §18.314(A), Regulation 19 §19.416(A), Regulation 26 §26.1013(A), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 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 §18.314(B), Regulation 19 §19.416(B), Regulation 26 §26.1013(B), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 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 §18.314(C), Regulation 19 §19.416(C), Regulation 26 §26.1013(C), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

Appendix A

ADEQ CEMS Conditions

Arkansas Department of Environmental Quality

CONTINUOUS EMISSION MONITORING SYSTEMS CONDITIONS

Revised September 2013

PREAMBLE

These conditions are intended to outline the requirements for facilities required to operate Continuous Emission Monitoring Systems/Continuous Opacity Monitoring Systems (CEMS/COMS). Generally there are three types of sources required to operate CEMS/COMS:

1. CEMS/COMS required by 40 CFR Part 60 or 63,
2. CEMS required by 40 CFR Part 75,
3. CEMS/COMS required by ADEQ permit for reasons other than Part 60, 63 or 75.

These CEMS/COMS conditions are not intended to supercede Part 60, 63 or 75 requirements.

- Only CEMS/COMS in the third category (those required by ADEQ permit for reasons other than Part 60, 63, or 75) shall comply with SECTION II, MONITORING REQUIREMENTS and SECTION IV, QUALITY ASSURANCE/QUALITY CONTROL.

- All CEMS/COMS shall comply with Section III, NOTIFICATION AND RECORDKEEPING.

SECTION I

DEFINITIONS

Continuous Emission Monitoring System (CEMS) - The total equipment required for the determination of a gas concentration and/or emission rate so as to include sampling, analysis and recording of emission data.

Continuous Opacity Monitoring System (COMS) - The total equipment required for the determination of opacity as to include sampling, analysis and recording of emission data.

Calibration Drift (CD) - The difference in the CEMS output reading from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustments took place.

Back-up CEMS (Secondary CEMS) - A CEMS with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate. This CEMS is to serve as a back-up to the primary CEMS to minimize monitor downtime.

Excess Emissions - Any period in which the emissions exceed the permit limits.

Monitor Downtime - Any period during which the CEMS/COMS is unable to sample, analyze and record a minimum of four evenly spaced data points over an hour, except during one daily zero-span check during which two data points per hour are sufficient.

Out-of-Control Period - Begins with the time corresponding to the completion of the fifth, consecutive, daily CD check with a CD in excess of two times the allowable limit, or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit and the time corresponding to the completion of the sampling for the Relative Accuracy Test Audit (RATA), Relative Accuracy Audit (RAA), or Cylinder Gas Audit (CGA) which exceeds the limits outlined in Section IV. Out-of-Control Period ends with the time corresponding to the completion of the CD check following corrective action with the results being within the allowable CD limit or the completion of the sampling of the subsequent successful RATA, RAA, or CGA.

Primary CEMS - The main reporting CEMS with the ability to sample, analyze, and record stack pollutant to determine gas concentration and/or emission rate.

Relative Accuracy (RA) - The absolute mean difference between the gas concentration or emission rate determined by the CEMS and the value determined by the reference method plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the reference method tests of the applicable emission limit.

Span Value – The upper limit of a gas concentration measurement range.

SECTION II

MONITORING REQUIREMENTS

** Only CEMS/COMS required by ADEQ permit for reasons other than Part 60, 63 or 75 shall comply with this section.

A. For new sources, the installation date for the CEMS/COMS shall be no later than thirty (30) days from the date of start-up of the source.

B. For existing sources, the installation date for the CEMS/COMS shall be no later than sixty (60) days from the issuance of the permit unless the permit requires a specific date.

C. Within sixty (60) days of installation of a CEMS/COMS, a performance specification test (PST) must be completed. PST's are defined in 40 CFR, Part 60, Appendix B, PS 1-9. The Department may accept alternate PST's for pollutants not covered by Appendix B on a case-by-case basis. Alternate PST's shall be approved, in writing, by the ADEQ CEM Coordinator prior to testing.

D. Each CEMS/COMS shall have, as a minimum, a daily zero-span check. The zero-span shall be adjusted whenever the 24-hour zero or 24-hour span drift exceeds two times the limits in the applicable performance specification in 40 CFR, Part 60, Appendix B. Before any adjustments are made to either the zero or span drifts measured at the 24-hour interval, the excess zero and span drifts measured must be quantified and recorded.

E. All CEMS/COMS shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Percent of monitor down-time is calculated by dividing the total minutes the monitor is not in operation by the total time in the calendar quarter and multiplying by one hundred. Failure to maintain operation time shall constitute a violation of the CEMS conditions.

F. Percent of excess emissions are calculated by dividing the total minutes of excess emissions by the total time the source operated and multiplying by one hundred. Failure to maintain compliance may constitute a violation of the CEMS conditions.

G. All CEMS measuring emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive fifteen minute period unless more cycles are required by the permit. For each CEMS, one-hour averages shall be computed from four or more data points equally spaced over each one hour period unless more data points are required by the permit.

All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

I. When the pollutant from a single affected facility is released through more than one point, a

CEMS/COMS shall be installed on each point unless installation of fewer systems is approved, in writing, by the ADEQ CEM Coordinator. When more than one CEM/COM is used to monitor emissions from one affected facility the owner or operator shall report the results as required from each CEMS/COMS.

SECTION III

NOTIFICATION AND RECORD KEEPING

** All CEMS/COMS shall comply with this section.

A. When requested to do so by an owner or operator, the ADEQ CEM Coordinator will review plans for installation or modification for the purpose of providing technical advice to the owner or operator.

B. Each facility which operates a CEMS/COMS shall notify the ADEQ CEM Coordinator of the date for which the demonstration of the CEMS/COMS performance will commence (i.e. PST, RATA, RAA, CGA). Notification shall be received in writing no less than 15 business days prior to testing. Performance test results shall be submitted to the Department within thirty days after completion of testing.

C. Each facility which operates a CEMS/COMS shall maintain records of the occurrence and duration of start up/shut down, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of the affected facility which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative.

D. Each facility required to install a CEMS/COMS shall submit an excess emission and monitoring system performance report to the Department (Attention: Air Division, CEM Coordinator) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter.

E. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on ADEQ Quarterly Excess Emission Report Forms. Alternate forms may be used with prior written approval from the Department.

F. Each facility which operates a CEMS/COMS must maintain on site a file of CEMS/COMS data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for a period of at least five years, and is required to be maintained in such a condition that it can easily be audited by an inspector.

G. Quarterly reports shall be used by the Department to determine compliance with the permit.

SECTION IV

QUALITY ASSURANCE/QUALITY CONTROL

** Only CEMS/COMS required by ADEQ permit for reasons other than Part 60, 63 or 75 shall comply with this section.

A. For each CEMS/COMS a Quality Assurance/Quality Control (QA/QC) plan shall be submitted to the Department (Attn.: Air Division, CEM Coordinator). CEMS quality assurance procedures are defined in 40 CFR, Part 60, Appendix F. This plan shall be submitted within 180 days of the CEMS/COMS installation. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability.

B. The submitted QA/QC plan for each CEMS/COMS shall not be considered as accepted until the facility receives a written notification of acceptance from the Department.

C. Facilities responsible for one, or more, CEMS/COMS used for compliance monitoring shall meet these minimum requirements and are encouraged to develop and implement a more extensive QA/QC program, or to continue such programs where they already exist. Each QA/QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1. Calibration of CEMS/COMS
    a. Daily calibrations (including the approximate time(s) that the daily zero and span drifts will be checked and the time required to perform these checks and return to stable operation)
2. Calibration drift determination and adjustment of CEMS/COMS
    a. Out-of-control period determination
    b. Steps of corrective action
3. Preventive maintenance of CEMS/COMS
    a. CEMS/COMS information
        1) Manufacture
        2) Model number
        3) Serial number
    b. Scheduled activities (check list)
    c. Spare part inventory
4. Data recording, calculations, and reporting
5. Accuracy audit procedures including sampling and analysis methods
6. Program of corrective action for malfunctioning CEMS/COMS

D. A Relative Accuracy Test Audit (RATA), shall be conducted at least once every four calendar quarters. A Relative Accuracy Audit (RAA), or a Cylinder Gas Audit (CGA), may be conducted in the other three quarters but in no more than three quarters in succession. The RATA should be conducted in accordance with the applicable test procedure in 40 CFR Part 60 Appendix A and calculated in accordance with the applicable performance specification in 40 CFR Part 60 Appendix B. CGA's and RAA's should be conducted and the data calculated in accordance with the procedures outlined on 40 CFR Part 60 Appendix F.

If alternative testing procedures or methods of calculation are to be used in the RATA, RAA or CGA audits prior authorization must be obtained from the ADEQ CEM Coordinator.

E. Criteria for excessive audit inaccuracy.

RATA

All Pollutants except Carbon Monoxide	> 20% Relative Accuracy
Carbon Monoxide	> 10% Relative Accuracy
All Pollutants except Carbon Monoxide	> 10% of the Applicable Standard
Carbon Monoxide	> 5% of the Applicable Standard
Diluent (O_2 & CO_2)	> 1.0 % O2 or CO2
Flow	> 20% Relative Accuracy

CGA

Pollutant	> 15% of average audit value or 5 ppm difference
Diluent (O_2 & CO_2)	> 15% of average audit value or 5 ppm difference

RAA

Pollutant	> 15% of the three run average or > 7.5 % of the applicable standard
Diluent (O_2 & CO_2)	> 15% of the three run average or > 7.5 % of the applicable standard

F. If either the zero or span drift results exceed two times the applicable drift specification in 40 CFR, Part 60, Appendix B for five consecutive, daily periods, the CEMS is out-of-control. If either the zero or span drift results exceed four times the applicable drift specification in Appendix B during a calibration drift check, the CEMS is out-of-control. If the CEMS exceeds the audit inaccuracies listed above, the CEMS is out-of-control. If a CEMS is out-of-control, the data from that out-of-control period is not counted towards meeting the minimum data availability as required and described in the applicable subpart. The end of the out-of-control period is the time corresponding to the completion of the successful daily zero or span drift or completion of the successful CGA, RAA or RATA.

G. A back-up monitor may be placed on an emission source to minimize monitor downtime. This back-up CEMS is subject to the same QA/QC procedure and practices as the primary CEMS. The back-up CEMS shall be certified by a PST. Daily zero-span checks must be performed and recorded in accordance with standard practices. When the primary CEMS goes down, the back-up CEMS may then be engaged to sample, analyze and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up CEMS is placed in service, these records shall include at a minimum the reason the primary CEMS is out of service, the date and time the primary CEMS was out of service and the date and time the primary CEMS was placed back in service.

Appendix B

40 C.F.R. Part 60 Subpart Dc

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

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

Contents

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

Back to Top

§60.40c Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) 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/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

(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 (SO_2) 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) Affected facilities (*i.e.* heat recovery steam generators and fuel heaters) that are associated with stationary combustion turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators, fuel heaters, and other affected facilities that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/h) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator, fuel heater, or other affected facility is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The stationary combustion turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(f) Any affected facility that meets the applicability requirements of and is subject to subpart AAAA or subpart CCCC of this part is not subject to this subpart.

(g) Any facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not subject to this subpart.

(h) Affected facilities that also meet the applicability requirements under subpart J or subpart Ja of this part are subject to the PM and NO_x standards under this subpart and the SO_2 standards under subpart J or subpart Ja of this part, as applicable.

(i) Temporary boilers are not subject to this subpart.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

Back to Top

§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 not meeting the definition of natural gas, 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.

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 hydrodesulfurization 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), diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17), kerosine, as defined by the American Society of Testing and Materials in ASTM D3699 (incorporated by reference, see §60.17), biodiesel as defined by the American Society of Testing and Materials in ASTM D6751 (incorporated by reference, see §60.17), or biodiesel blends as defined by the American Society of Testing and Materials in ASTM D7467 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO_2 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 SO_2 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); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

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 SO_2 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 heats any 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.

Temporary boiler means a steam generating unit that combusts natural gas or distillate oil with a potential SO_2 emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

Wet flue gas desulfurization technology means an SO_2 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 SO_2.

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.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

Back to Top

§60.42c Standard for sulfur dioxide (SO_2).

(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 SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 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 SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in 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 SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO_2 emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of SO_2 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 SO_2 emissions limit or the 90 percent SO_2 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 SO_2 emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 50 percent (0.50) of the potential SO_2 emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 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 SO_2 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 SO_2 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/h) 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; or

(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 SO_2 in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; 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 SO_2 in excess of the following:

(1) The percent of potential SO_2 emission rate or numerical SO_2 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/h); 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:

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

View or download PDF

Where:

E_s = SO_2 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 = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO_2 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 SO_2 emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO_2 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), (3), or (4) 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 affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(4) Other fuels-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(i) The SO_2 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) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, 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.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9462, Feb. 16, 2012]

Back to Top

§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/h) 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/h) 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/h) 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. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph (c).

(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/h) 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/h) 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) 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 SO_2 emissions is not subject to the PM limit in this section.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 77 FR 9462, Feb. 16, 2012]

Back to Top

§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 SO_2 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 affect 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 SO_2 emission limits under §60.42c is based on the average percent reduction and the average SO_2 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 SO_2emission 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 SO_2 emission rate (E_{ho}) and the 30-day average SO_2 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:

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

View or download PDF

Where:

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

E_{ho} = Hourly SO_2 emission 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 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 SO_2 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 SO_2 emission rate is computed using the following formula:

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

View or download PDF

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 $E_{ao}o$ from paragraph (e)(1) of this section and an adjusted average SO_2 inlet rate ($E_{ai}o$) using the following formula:

$$\%R_g o = 100\left(1 - \frac{E^{o}_{ao}}{E^{o}_{ai}}\right)$$

View or download PDF

Where:

$\%R_g o$ = Adjusted $\%R_g$, in percent;

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

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

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

$$E_{hi}o = \frac{E_{hi} - E_w(1 - X_1)}{X_1}$$

View or download PDF

Where:

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

E_{hi} = 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 SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in §60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO_2 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 SO_2 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.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

Back to Top

§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 3A or 3B of appendix A-2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A-3 of this part or 17 of appendix A-6 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 (O_2) or carbon dioxide (CO_2) 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 O_2 or CO_2 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-4 of this part 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 Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 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 Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(14) 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 (c)(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 (c)(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 (c)(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 O_2 (or CO_2) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall be used; and

(ii) For O2 (or CO_2), Method 3A or 3B of appendix A-2 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.

(14) As of January 1, 2012, and within 90 days after the date of completing each performance test, as defined in §60.8, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (*i.e.,*reference method) data and performance test (*i.e.,* compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(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/h).

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9463, Feb. 16, 2012]

Back to Top

§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 SO_2 emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO_2concentrations and either O_2 or CO_2 concentrations at the outlet of the SO_2 control device (or the outlet of the steam generating unit if no SO_2 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 SO_2 concentrations and either O_2 or CO_2 concentrations at both the inlet and outlet of the SO_2 control device.

(b) The 1-hour average SO_2 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 SO_2 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 SO_2 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 SO_2CEMS at the inlet to the SO_2 control device shall be 125 percent of the maximum estimated hourly potential SO_2emission rate of the fuel combusted, and the span value of the SO_2 CEMS at the outlet from the SO_2 control device shall be 50 percent of the maximum estimated hourly potential SO_2 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 SO_2 CEMS at the outlet from the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) shall be 125 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2 emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2 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 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 SO_2 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 SO_2 at the inlet or outlet of the SO_2 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 SO_2 and CO_2 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 SO_2 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.

Back to Top

§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 continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in §60.43c(c) that is not required to use a COMS due to paragraphs (c), (d), (e), or (f) of this section that elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43c by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.,* 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.,* 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in §60.45c(a)(8).

(ii) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) All COMS 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) Owners and operators of an 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 (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO2 or PM emissions and that are subject to an opacity standard in §60.43c(c) are not required to operate a COMS if they follow the applicable procedures in §60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in §60.45c(c). The CEMS specified in paragraph §60.45c(c) 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) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2, 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 discharged 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. 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; or

(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. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(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 owner or operator of an affected facility that is subject to an opacity standard in §60.43c(c) is not required to operate a COMS provided that the affected facility meets the conditions in either paragraphs (f)(1), (2), or (3) of this section.

(1) The affected facility uses a fabric filter (baghouse) as the primary PM control device and, the owner or operator operates a bag leak detection system to monitor the performance of the fabric filter according to the requirements in section §60.48Da of this part.

(2) The affected facility uses an ESP as the primary PM control device, and the owner or operator uses an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the requirements in section §60.48Da of this part.

(3) The affected facility burns only gaseous fuels and/or fuel oils that contain no greater than 0.5 weight percent sulfur, and the owner or operator operates the unit according to a written site-specific monitoring plan approved by the permitting authority. 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. For testing performed as part of this site-specific monitoring plan, the permitting authority may require as an alternative to the notification and reporting requirements specified in §§60.8

and 60.11 that the owner or operator submit any deviations with the excess emissions report required under §60.48c(c).

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9463, Feb. 16, 2012]

Back to Top

§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 SO_2 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 SO_2 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) In addition to the applicable requirements in §60.7, the owner or operator of an affected facility subject to the opacity limits in §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator

(d) The owner or operator of each affected facility subject to the SO_2 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 SO_2 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 SO_2 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 SO_2 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 SO_2 or diluent (O_2 or CO_2) 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 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 or maximum 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 or maximum 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 SO_2 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 SO_2 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.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

Appendix C

40 C.F.R. Part 60 Subpart AAa

Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983

Subpart AAa—Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983

Contents

SOURCE: 49 FR 43845, Oct. 31, 1984, unless otherwise noted.

Back to Top

§60.270a Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities in steel plants that produce carbon, alloy, or specialty steels: electric arc furnaces, argon-oxygen decarburization vessels, and dust-handling systems.

(b) The provisions of this subpart apply to each affected facility identified in paragraph (a) of this section that commences construction, modification, or reconstruction after August 17, 1983.

Back to Top

§60.271a Definitions.

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

Argon-oxygen decarburization vessel (AOD vessel) means any closed-bottom, refractory-lined converter vessel with submerged tuyeres through which gaseous mixtures containing argon and oxygen or nitrogen may be blown into molten steel for further refining.

Bag leak detection system means a system that is capable of continuously monitoring relative particulate matter (dust) loadings in the exhaust of a baghouse to detect bag leaks and other conditions that result in increases in particulate loadings. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, electrodynamic, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

Capture system means the equipment (including ducts, hoods, fans, dampers, etc.) used to capture or transport particulate matter generated by an electric arc furnace or AOD vessel to the air pollution control device.

Charge means the addition of iron and steel scrap or other materials into the top of an electric arc furnace or the addition of molten steel or other materials into the top of an AOD vessel.

Control device means the air pollution control equipment used to remove particulate matter from the effluent gas stream generated by an electric arc furnace or AOD vessel.

Direct-shell evacuation control system (DEC system) means a system that maintains a negative pressure within the electric arc furnace above the slag or metal and ducts emissions to the control device.

Dust-handling system means equipment used to handle particulate matter collected by the control device for an electric arc furnace or AOD vessel subject to this subpart. For the purposes of this subpart, the dust-handling system shall consist of the control device dust hoppers, the dust-conveying equipment, any central dust storage equipment, the dust-treating equipment (e.g., pug mill, pelletizer), dust transfer equipment (from storage to truck), and any secondary control devices used with the dust transfer equipment.

Electric arc furnace (EAF) means a furnace that produces molten steel and heats the charge materials with electric arcs from carbon electrodes. For the purposes of this subpart, an EAF shall consist of the furnace shell and roof and the transformer. Furnaces that continuously feed direct-reduced iron ore pellets as the primary source of iron are not affected facilities within the scope of this definition.

Heat cycle means the period beginning when scrap is charged to an empty EAF and ending when the EAF tap is completed or beginning when molten steel is charged to an empty AOD vessel and ending when the AOD vessel tap is completed.

Meltdown and refining period means the time period commencing at the termination of the initial charging period and ending at the initiation of the tapping period, excluding any intermediate charging periods and times when power to the EAF is off.

Melting means that phase of steel production cycle during which the iron and steel scrap is heated to the molten state.

Negative-pressure fabric filter means a fabric filter with the fans on the downstream side of the filter bags.

Positive-pressure fabric filter means a fabric filter with the fans on the upstream side of the filter bags.

Refining means that phase of the steel production cycle during which undesirable elements are removed from the molten steel and alloys are added to reach the final metal chemistry.

Shop means the building which houses one or more EAF's or AOD vessels.

Shop opacity means the arithmetic average of 24 observations of the opacity of emissions from the shop taken in accordance with Method 9 of appendix A of this part.

Tap means the pouring of molten steel from an EAF or AOD vessel.

Tapping period means the time period commencing at the moment an EAF begins to pour molten steel and ending either three minutes after steel ceases to flow from an EAF, or six minutes after steel begins to flow, whichever is longer.

[49 FR 43845, Oct. 31, 1984, as amended at 64 FR 10110, Mar. 2, 1999; 70 FR 8532, Feb. 22, 2005]

Back to Top

§60.272a Standard for particulate matter.

(a) On and after the date of which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from an EAF or an AOD vessel any gases which:

(1) Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf);

(2) Exit from a control device and exhibit 3 percent opacity or greater; and

(3) Exit from a shop and, due solely to the operations of any affected EAF(s) or AOD vessel(s), exhibit 6 percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from the dust-handling system any gases that exhibit 10 percent opacity or greater.

Back to Top

§60.273a Emission monitoring.

(a) Except as provided under paragraphs (b) and (c) of this section, a continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) shall be installed, calibrated, maintained, and operated by the owner or operator subject to the provisions of this subpart.

(b) No continuous monitoring system shall be required on any control device serving the dust-handling system.

(c) A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) is not required on any modular, multi-stack, negative-pressure or positive-pressure fabric filter if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer; or on any single-stack fabric filter if visible emissions from the control device are performed by a certified visible emission observer and the owner installs and continuously operates a bag leak detection system according to paragraph (e) of this section. Visible emission observations shall be conducted at least once per day for at least three 6-minute periods when the furnace is operating in the melting and refining period. All visible emissions observations shall be conducted in accordance with Method 9. If visible emissions occur from more than one point, the opacity shall be recorded for any points where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emission, only one set of three 6-minute observations will be required. In that case, the Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in §60.272a(a).

(d) A furnace static pressure monitoring device is not required on any EAF equipped with a DEC system if observations of shop opacity are performed by a certified visible emission observer as follows: Shop opacity observations shall be conducted at least once per day when the furnace is operating in the meltdown and refining period. Shop opacity shall be determined as the arithmetic average of 24 consecutive 15-second opacity observations of emissions from the shop taken in accordance with Method

9. Shop opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of visible emissions, only one observation of shop opacity will be required. In this case, the shop opacity observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident.

(e) A bag leak detection system must be installed and continuously operated on all single-stack fabric filters if the owner or operator elects not to install and operate a continuous opacity monitoring system as provided for under paragraph (c) of this section. In addition, the owner or operator shall meet the visible emissions observation requirements in paragraph (c) of this section. The bag leak detection system must meet the specifications and requirements of paragraphs (e)(1) through (8) of this section.

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

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

(3) The bag leak detection system must be equipped with an alarm system that will sound when an increase in relative particulate loading is detected over the alarm set point established according to paragraph (e)(4) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(4) For each bag leak detection system required by paragraph (e) of this section, the owner or operator shall develop and submit to the Administrator or delegated authority, for approval, a site-specific monitoring plan that addresses the items identified in paragraphs (i) through (v) of this paragraph (e)(4). For each bag leak detection system that operates based on the triboelectric effect, the monitoring plan shall be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document “Fabric Filter Bag Leak Detection Guidance” (EPA-454/R-98-015). The owner or operator shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan shall describe the following:

(i) Installation of the bag leak detection system;

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

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

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

(v) How the bag leak detection system output shall be recorded and stored.

(5) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time (if applicable).

(6) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided for in paragraphs (e)(6)(i) and (ii) of this section.

(i) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects including temperature and humidity according to the procedures identified in the site-specific monitoring plan required under paragraphs (e)(4) of this section.

(ii) If opacities greater than zero percent are observed over four consecutive 15-second observations during the daily opacity observations required under paragraph (c) of this section and the alarm on the bag leak detection system does not sound, the owner or operator shall lower the alarm set point on the bag leak detection system to a point where the alarm would have sounded during the period when the opacity observations were made.

(7) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detection sensor must be installed downstream of the baghouse and upstream of any wet scrubber.

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

(f) For each bag leak detection system installed according to paragraph (e) of this section, the owner or operator shall initiate procedures to determine the cause of all alarms within 1 hour of an alarm. Except as provided for under paragraph (g) of this section, the cause of the alarm must be alleviated within 3 hours of the time the alarm occurred by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to, the following:

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

(2) Sealing off defective bags or filter media;

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

(4) Sealing off a defective baghouse compartment;

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

(6) Shutting down the process producing the particulate emissions.

(g) In approving the site-specific monitoring plan required in paragraph (e)(4) of this section, the Administrator or delegated authority may allow owners or operators more than 3 hours to alleviate specific conditions that cause an alarm if the owner or operator identifies the condition that could lead to an alarm in the monitoring plan, adequately explains why it is not feasible to alleviate the condition within 3 hours of the time the alarm occurred, and demonstrates that the requested additional time will ensure alleviation of the condition as expeditiously as practicable.

[49 FR 43845, Oct. 31, 1984, as amended at 54 FR 6672, Feb. 14, 1989; 64 FR 10111, Mar. 2, 1999; 70 FR 8532, Feb. 22, 2005]

Back to Top

§60.274a Monitoring of operations.

(a) The owner or operator subject to the provisions of this subpart shall maintain records of the following information:

(1) All data obtained under paragraph (b) of this section; and

(2) All monthly operational status inspections performed under paragraph (c) of this section.

(b) Except as provided under paragraph (e) of this section, the owner or operator subject to the provisions of this subpart shall check and record on a once-per-shift basis the furnace static pressure (if DEC system is in use, and a furnace static pressure gauge is installed according to paragraph (f) of this section) and either: check and record the control system fan motor amperes and damper position on a once-per-shift basis; install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet and check and record damper positions on a once-per-shift basis. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of ±10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Administrator may require the owner or operator to demonstrate the accuracy of the monitoring device(s) relative to Methods 1 and 2 of appendix A of this part.

(c) When the owner or operator of an affected facility is required to demonstrate compliance with the standards under §60.272a(a)(3) and at any other time that the Administrator may require (under section 114 of the CAA, as amended) either: the control system fan motor amperes and all damper positions, the volumetric flow rate through each separately ducted hood, or the volumetric flow rate at the control device inlet and all damper positions shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the affected facility subject to paragraph (b) of this section. The owner or operator may petition the Administrator for reestablishment of these parameters whenever the owner or operator can demonstrate to the Administrator's satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of §60.276a(c).

(d) Except as provided under paragraph (e) of this section, the owner or operator shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (*i.e.*, pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed.

(e) The owner or operator may petition the Administrator to approve any alternative to either the monitoring requirements specified in paragraph (b) of this section or the monthly operational status inspections specified in paragraph (d) of this section if the alternative will provide a continuous record of operation of each emission capture system.

(f) Except as provided for under §60.273a(d), if emissions during any phase of the heat time are controlled by the use of a DEC system, the owner or operator shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF to be monitored. The pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF or DEC duct prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of ±5 mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions.

(g) Except as provided for under §60.273a(d), when the owner or operator of an EAF controlled by a DEC is required to demonstrate compliance with the standard under §60.272a(a)(3), and at any other time the Administrator may require (under section 114 of the Clean Air Act, as amended), the pressure in the free space inside the furnace shall be determined during the meltdown and refining period(s) using the monitoring device required under paragraph (f) of this section. The owner or operator may petition the Administrator for reestablishment of the pressure whenever the owner or operator can demonstrate to the Administrator's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility.

(h) During any performance test required under §60.8, and for any report thereof required by §60.276a(f) of this subpart, or to determine compliance with §60.272a(a)(3) of this subpart, the owner or operator shall monitor the following information for all heats covered by the test:

(1) Charge weights and materials, and tap weights and materials;

(2) Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside an EAF when direct-shell evacuation control systems are used;

(3) Control device operation log; and

(4) Continuous opacity monitor or Method 9 data.

[49 FR 43845, Oct. 31, 1984, as amended at 64 FR 10111, Mar. 2, 1999; 65 FR 61758, Oct. 17, 2000; 70 FR 8533, Feb. 22, 2005]

Back to Top

§60.275a Test methods and procedures.

(a) During performance tests required in §60.8, the owner or operator shall not add gaseous diluents to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions.

(b) When emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this subpart but controlled by a common capture system and control device, the owner or operator shall use either or both of the following procedures during a performance test (see also §60.276a(e)):

(1) Determine compliance using the combined emissions.

(2) Use a method that is acceptable to the Administrator and that compensates for the emissions from the facilities not subject to the provisions of this subpart.

(c) When emission from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this subpart, the owner or operator shall demonstrate compliance with §60.272(a)(3) based on emissions from only the affected facility(ies).

(d) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(e) The owner or operator shall determine compliance with the particulate matter standards in §60.272a as follows:

(1) Method 5 shall be used for negative-pressure fabric filters and other types of control devices and Method 5D shall be used for positive-pressure fabric filters to determine the particulate matter concentration and volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 4 hours and 4.50 dscm (160 dscf) and, when a single EAF or AOD vessel is sampled, the sampling time shall include an integral number of heats.

(2) When more than one control device serves the EAF(s) being tested, the concentration of particulate matter shall be determined using the following equation:

$$c_{st} = \left[\sum_{i=1}^{n} \left(c_{si} Q_{sdi} \right) \right] / \sum_{i=1}^{n} Q_{sdi}$$

View or download PDF

where:

c_{st} = average concentration of particulate matter, mg/dscm (gr/dscf).

c_{si} = concentration of particulate matter from control device "i", mg/dscm (gr/dscf).

n = total number of control devices tested.

Q_{sdi} = volumetric flow rate of stack gas from control device "i", dscm/hr (dscf/hr).

(3) Method 9 and the procedures of §60.11 shall be used to determine opacity.

(4) To demonstrate compliance with §60.272a(a) (1), (2), and (3), the Method 9 test runs shall be conducted concurrently with the particulate matter test runs, unless inclement weather interferes.

(f) To comply with §60.274a (c), (f), (g), and (h), the owner or operator shall obtain the information required in these paragraphs during the particulate matter runs.

(g) Any control device subject to the provisions of the subpart shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures.

(h) Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this subpart but controlled by a common capture system and control device, the owner or operator may use any of the following procedures during a performance test:

(1) Base compliance on control of the combined emissions;

(2) Utilize a method acceptable to the Administrator that compensates for the emissions from the facilities not subject to the provisions of this subpart, or;

(3) Any combination of the criteria of paragraphs (h)(1) and (h)(2) of this section.

(i) Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this subpart, determinations of compliance with §60.272a(a)(3) will only be based upon emissions originating from the affected facility(ies).

(j) Unless the presence of inclement weather makes concurrent testing infeasible, the owner or operator shall conduct concurrently the performance tests required under §60.8 to demonstrate compliance with §60.272a(a) (1), (2), and (3) of this subpart.

[49 FR 43845, Oct. 31, 1984, as amended at 54 FR 6673, Feb. 14, 1989; 54 FR 21344, May 17, 1989; 65 FR 61758, Oct. 17, 2000]

Back to Top

§60.276a Recordkeeping and reporting requirements.

(a) Records of the measurements required in §60.274a must be retained for at least 2 years following the date of the measurement.

(b) Each owner or operator shall submit a written report of exceedances of the control device opacity to the Administrator semi-annually. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater.

(c) Operation at a furnace static pressure that exceeds the value established under §60.274a(g) and either operation of control system fan motor amperes at values exceeding ±15 percent of the value established under §60.274a(c) or operation at flow rates lower than those established under §60.274a(c) may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Administrator semiannually.

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

(e) When the owner or operator of an EAF or AOD is required to demonstrate compliance with the standard under §60.275 (b)(2) or a combination of (b)(1) and (b)(2) the owner or operator shall obtain approval from the Administrator of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used must be postmarked at least 30 days prior to the performance test.

(f) For the purpose of this subpart, the owner or operator shall conduct the demonstration of compliance with §60.272a(a) of this subpart and furnish the Administrator a written report of the results of the test. This report shall include the following information:

(1) Facility name and address;

(2) Plant representative;

(3) Make and model of process, control device, and continuous monitoring equipment;

(4) Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;

(5) Rated (design) capacity of process equipment;

(6) Those data required under §60.274a(h) of this subpart;

(i) List of charge and tap weights and materials;

(ii) Heat times and process log;

(iii) Control device operation log; and

(iv) Continuous opacity monitor or Method 9 data.

(7) Test dates and test times;

(8) Test company;

(9) Test company representative;

(10) Test observers from outside agency;

(11) Description of test methodology used, including any deviation from standard reference methods;

(12) Schematic of sampling location;

(13) Number of sampling points;

(14) Description of sampling equipment;

(15) Listing of sampling equipment calibrations and procedures;

(16) Field and laboratory data sheets;

(17) Description of sample recovery procedures;

(18) Sampling equipment leak check results;

(19) Description of quality assurance procedures;

(20) Description of analytical procedures;

(21) Notation of sample blank corrections; and

(22) Sample emission calculations.

(g) The owner or operator shall maintain records of all shop opacity observations made in accordance with §60.273a(d). All shop opacity observations in excess of the emission limit specified in §60.272a(a)(3) of this subpart shall indicate a period of excess emission, and shall be reported to the administrator semi-annually, according to §60.7(c).

(h) The owner or operator shall maintain the following records for each bag leak detection system required under §60.273a(e):

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

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

(3) An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, if procedures were initiated within 1 hour of the alarm, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and if the alarm was alleviated within 3 hours of the alarm.

[49 FR 43845, Oct. 31, 1984, as amended at 54 FR 6673, Feb. 14, 1989; 64 FR 10111, Mar. 2, 1999; 65 FR 61758, Oct. 17, 2000; 70 FR 8533, Feb. 22, 2005]

Appendix D

40 C.F.R. Part 60 Subpart TT

Standards of Performance for Metal Coil Surface Coating

Subpart TT—Standards of Performance for Metal Coil Surface Coating

Contents

SOURCE: 47 FR 49612, Nov. 1, 1982, unless otherwise noted.

Back to Top

§60.460 Applicability and designation of affected facility.

(a) The provisions of this subpart apply to the following affected facilities in a metal coil surface coating operation: each prime coat operation, each finish coat operation, and each prime and finish coat operation combined when the finish coat is applied wet on wet over the prime coat and both coatings are cured simultaneously.

(b) This subpart applies to any facility identified in paragraph (a) of this section that commences construction, modification, or reconstruction after January 5, 1981.

Back to Top

§60.461 Definitions.

(a) All terms used in this subpart not defined below are given the same meaning as in the Act or in subpart A of this part.

Coating means any organic material that is applied to the surface of metal coil.

Coating application station means that portion of the metal coil surface coating operation where the coating is applied to the surface of the metal coil. Included as part of the coating application station is the flashoff area between the coating application station and the curing oven.

Curing oven means the device that uses heat or radiation to dry or cure the coating applied to the metal coil.

Finish coat operation means the coating application station, curing oven, and quench station used to apply and dry or cure the final coating(s) on the surface of the metal coil. Where only a single coating is applied to the metal coil, that coating is considered a finish coat.

Metal coil surface coating operation means the application system used to apply an organic coating to the surface of any continuous metal strip with thickness of 0.15 millimeter (mm) (0.006 in.) or more that is packaged in a roll or coil.

Prime coat operation means the coating application station, curing oven, and quench station used to apply and dry or cure the initial coating(s) on the surface of the metal coil.

Quench station means that portion of the metal coil surface coating operation where the coated metal coil is cooled, usually by a water spray, after baking or curing.

VOC content means the quantity, in kilograms per liter of coating solids, of volatile organic compounds (VOC's) in a coating.

(b) All symbols used in this subpart not defined below are given the same meaning as in the Act and in subpart A of this part.

C_a = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million by volume, as carbon).

C_b = the VOC concentration in each gas stream entering the control device (parts per million by volume, as carbon).

C_f = the VOC concentration in each gas steam emitted directly to the atmosphere (parts per million by volume, as carbon).

D_c = density of each coating, as received (kilograms per liter).

D_d = density of each VOC-solvent added to coatings (kilograms per liter).

D_r = density of VOC-solvent recovered by an emission control device (kilograms per liter).

E= VOC destruction efficiency of the control device (fraction).

F= the proportion of total VOC's emitted by an affected facility that enters the control device (fraction).

G= volume-weighted average mass of VOC's in coatings consumed in a calendar month per unit volume of coating solids applied (kilograms per liter).

L_c = the volume of each coating consumed, as received (liters).

L_d = the volume of each VOC-solvent added to coatings (liters).

L_r = the volume of VOC-solvent recovered by an emission control device (liters).

L_s = the volume of coating solids consumed (liters).

M_d = the mass of VOC-solvent added to coatings (kilograms).

M_o = the mass of VOC's in coatings consumed, as received (kilograms).

M_r = the mass of VOC's recovered by an emission control device (kilograms).

N= the volume-weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter).

Q_a = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour).

Q_b = the volumetric flow rate of each gas stream entering the control device (dry standard cubic meters per hour).

Q_f = the volumetric flow rate of each gas steam emitted directly to the atmosphere (dry standard cubic meters per hour).

R= the overall VOC emission reduction achieved for an affected facility (fraction).

S= the calculated monthly allowable emission limit (kilograms of VOC per liter of coating solids applied).

V_s = the proportion of solids in each coating, as received (fraction by volume).

W_o = the proportion of VOC's in each coating, as received (fraction by weight).

Back to Top

§60.462 Standards for volatile organic compounds.

(a) On and after the date on which §60.8 requires a performance test to be completed, each owner or operator subject to this subpart shall not cause to be discharged into the atmosphere more than:

(1) 0.28 kilogram VOC per liter (kg VOC/*l*) of coating solids applied for each calendar month for each affected facility that does not use an emission control device(s); or

(2) 0.14 kg VOC/*l* of coating solids applied for each calendar month for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or

(3) 10 percent of the VOC's applied for each calendar month (90 percent emission reduction) for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or

(4) A value between 0.14 (or a 90-percent emission reduction) and 0.28 kg VOC/*l* of coating solids applied for each calendar month for each affected facility that intermittently uses an emission control device operated at the most recently demonstrated overall efficiency.

Back to Top

§60.463 Performance test and compliance provisions.

(a) Section 60.8(d) and (f) do not apply to the performance test.

(b) The owner or operator of an affected facility shall conduct an initial performance test as required under §60.8(a) and thereafter a performance test for each calendar month for each affected facility according to the procedures in this section.

(c) The owner or operator shall use the following procedures for determining monthly volume-weighted average emissions of VOC's in kg/*l* of coating solids applied.

(1) An owner or operator shall use the following procedures for each affected facility that does not use a capture system and control device to comply with the emission limit specified under §60.462(a)(1). The owner or operator shall determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or by an analysisof each coating, as received, using Method 24. The Administrator may require the owner or operator who uses formulation data supplied by the manufacturer of the coatings to determine the VOC content of coatings using Method 24 or an equivalent or alternative method. The owner or operator shall determine the volume of coating and the mass of VOC-solvent added to coatings from company records on a monthly basis. If a common coating distribution system

serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coating used at each affected facility by using the average dry weight of coating and the surface area coated by each affected and existing facility or by other procedures acceptable to the Administrator.

(i) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied during each calendar month for each affected facility, except as provided under paragraph (c)(1)(iv) of this section. The weighted average of the total mass of VOC's used per unit volume of coating solids applied each calendar month is determined by the following procedures.

(A) Calculate the mass of VOC's used (Mo + Md) during each calendar month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj} \qquad Equation\ 1$$

View or download PDF

($\Sigma L_{dj} D_{dj}$ will be 0 if no VOC solvent is added to the coatings, as received)

where

n is the number of different coatings used during the calendar month, and

m is the number of different VOC solvents added to coatings used during the calendar month.

(B) Calculate the total volume of coating solids used (L_s) in each calendar month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^{n} V_{si} L_{ci} \qquad Equation\ 2$$

View or download PDF

Where:

n is the number of different coatings used during the calendar month.

(C) Calculate the volume-weighted average mass of VOC's used per unit volume of coating solids applied (G) during the calendar month for each affected facility by the following equation:

$$G = \frac{M_o + M_d}{L_s} \qquad Equation\ 3$$

View or download PDF

(ii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during the calendar month for each affected facility by the following equation:

$$N = G \qquad Equation\ 4$$

[View or download PDF]

(iii) Where the volume-weighted average mass of VOC's discharged to the atmosphere per unit volume of coating solids applied (N) is equal to or less than 0.28 kg/*l*, the affected facility is in compliance.

(iv) If each individual coating used by an affected facility has a VOC content, as received, that is equal to or less than 0.28 kg/*l* of coating solids, the affected facility is in compliance provided no VOC's are added to the coatings during distribution or application.

(2) An owner or operator shall use the following procedures for each affected facility that continuously uses a capture system and a control device that destroys VOC's (e.g., incinerator) to comply with the emission limit specified under §60.462(a) (2) or (3).

(i) Determine the overall reduction efficiency (R) for the capture system and control device.

For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed in paragraphs (c)(2)(i) (A), (B), and (C) of this section. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test, providing control device and capture system operating conditions have not changed. The procedure in paragraphs (c)(2)(i) (A), (B), and (C) of this section, shall be repeated when directed by the Administrator or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.

(A) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:

$$F=\frac{\sum_{i=1}^{l} C_{bi}Q_{bi}}{\sum_{i=1}^{l} C_{bi}Q_{bi}+\sum_{j=1}^{p} C_{fj}Q_{fj}}$$

[View or download PDF]

Equation 5

Where:

l is the number of gas streams entering the control device, and

p is the number of gas streams emitted directly to the atmosphere.

(B) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

$$E=\frac{\sum_{i=1}^{n} Q_{bi}C_{bi}-\sum_{j=1}^{m} Q_{aj}C_{aj}}{\sum_{i=1}^{n} Q_{bi}C_{bi}}$$

[View or download PDF]

Equation 6

Where:

n is the number of gas streams entering the control device, and

m is the number of gas streams leaving the control device and entering the atmosphere.

The owner or operator of the affected facility shall construct the VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in §60.466. The owner or operator of the affected facility shall construct a temporary enclosure around the coating applicator and flashoff area during the performance test for the purpose of evaluating the capture efficiency of the system. The enclosure must be maintained at a negative pressure to ensure that all VOC emissions are measurable. If a permanent enclosure exists in the affected facility prior to the performance test and the Administrator is satisfied that the enclosure is adequately containing VOC emissions, no additional enclosure is required for the performance test.

(C) Determine overall reduction efficiency (R) using the following equation:

$$R = EF \qquad \textit{Equation 7}$$

View or download PDF

If the overall reduction efficiency (R) is equal to or greater than 0.90, the affected facility is in compliance and no further computations are necessary. If the overall reduction efficiency (R) is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied (N) shall be computed as follows.

(ii) Calculate the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in paragraphs (c)(1)(i) (A), (B), and (C) of this section.

(iii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:

$$N = G(1 - R) \qquad \textit{Equation 8}$$

View or download PDF

(iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.14 kg/*l* of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.

(3) An owner or operator shall use the following procedure for each affected facility that uses a control device that recovers the VOC's (e.g., carbon adsorber) to comply with the applicable emission limit specified under §60.462(a) (2) or (3).

(i) Calculate the total mass of VOC's consumed (M_o + M_d) during each calendar month for each affected facility using equation (1).

(ii) Calculate the total mass of VOC's recovered (M_r) during each calendar month using the following equation:

$$M_r = L_r D_r \qquad \textit{Equation 9}$$

View or download PDF

(iii) Calculate the overall reduction efficiency of the control device (R) for each calendar month for each affected facility using the following equation:

$$R=\frac{M_r}{M_o+M_d} \quad \textit{Equation } 10$$

View or download PDF

If the overall reduction efficiency (R) is equal to or greater than 0.90, the affected facility is in compliance and no further computations are necessary. If the overall reduction efficiency (R) is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied (N) must be computed as follows.

(iv) Calculate the total volume of coating solids consumed (L_s) and the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in paragraphs (c)(1)(i) (B) and (C) of this section.

(v) Calculate the volume-weighted average mass of VOC's emitted to the atmosphere (N) for each calendar month for each affected facility using equation (8).

(vi) If the weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.14 kg/*l* of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.

(4) An owner or operator shall use the following procedures for each affected facility that intermittently uses a capture system and a control device to comply with the emission limit specified in §60.462(a)(4).

(i) Calculate the total volume of coating solids applied without the control device in operation (L_{sn}) during each calendar month for each affected facility using the following equation:

$$L_{sn}=\sum_{i-1}^{n} V_{si} L_{ci} \quad \textit{Equation } 11$$

View or download PDF

Where:

n is the number of coatings used during the calendar month without the control device in operation.

(ii) Calculate the total volume of coating solids applied with the control device in operation (L_{sc}) during each calendar month for each affected facility using the following equation:

$$L_{sc}=\sum_{i-1}^{n} V_{si} L_{ci} \quad \textit{Equation } 12$$

View or download PDF

Where:

n is the number of coatings used during the calendar month with the control device in operation.

(iii) Calculate the mass of VOC's used without the control device in operation (M_{on} + M_{dn}) during each calendar month for each affected facility using the following equation:

$$M_{on} + M_{dn} + \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj} \qquad \textit{Equation } 13$$

View or download PDF

Where:

n is the number of different coatings used without the control device in operation during the calendar month, and

m is the number of different VOC-solvents added to coatings used without the control device in operation during the calendar month.

(iv) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied without the control device in operation (G_n) during each calendar month for each affected facility using the following equation:

$$G_n = \frac{M_{on} + M_{dn}}{L_{sn}} \qquad \textit{Equation } 14$$

View or download PDF

(v) Calculate the mass of VOC's used with the control device in operation (M_{oc} + M_{dc}) during each calendar month for each affected facility using the following equation:

$$M_{oc} + M_{dc} = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{i=1}^{m} L_{dj} D_{dj} \qquad \textit{Equation } 15$$

View or download PDF

Where:

n is the number of different coatings used with the control device in operation during the calendar month, and

m is the number of different VOC-solvents added to coatings used with the control device in operation during the calendar month.

(vi) Calculate the volume-weighted average of the total mass of VOC's used per unit volume of coating solids applied with the control device in operation (G_c) during each calendar month for each affected facility using the following equation:

$$G = \frac{M_{oc} + M_{dc}}{L_{sn}} \qquad \textit{Equation } 16$$

View or download PDF

(vii) Determine the overall reduction efficiency (R) for the capture system and control device using the procedures in paragraphs (c)(2)(i) (A), (B), and (C) or paragraphs (c)(3) (i), (ii), and (iii) of this section, whichever is applicable.

(viii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month for each affected facility using the following equation:

$$N=\frac{G_n L_{sn}+G_c L_{sc}(1-R)}{L_{sn}+L_{sc}} \qquad Equation\ 17$$

View or download PDF

Equation 17

(ix) Calculate the emission limit(s) for each calendar month for each affected facility using the following equation:

$$S=\frac{0.28\,L_{sn}+0.1\,G_c L_{sc}}{L_{ns}+L_{sc}}$$

View or download PDF

or

$$\frac{0.28\,L_{sn}+0.14\,L_{sc}}{L_{sn}+L_{sc}} \qquad Equation\ 18$$

View or download PDF

whichever is greater.

(x) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to the calculated emission limit (S) for the calendar month, the affected facility is in compliance. Each monthly calculation is a performance test.

[47 FR 49612, Nov. 1, 1982; 48 FR 1056, Jan. 10, 1983, as amended at 65 FR 61761, Oct. 17, 2000]

Back to Top

§60.464 Monitoring of emissions and operations.

(a) Where compliance with the numerical limit specified in §60.462(a) (1) or (2) is achieved through the use of low VOC-content coatings without the use of emission control devices or through the use of higher VOC-content coatings in conjunction with emission control devices, the owner or operator shall compute and record the average VOC content of coatings applied during each calendar month for each affected facility, according to the equations provided in §60.463.

(b) Where compliance with the limit specified in §60.462(a)(4) is achieved through the intermittent use of emission control devices, the owner or operator shall compute and record for each affected facility the average VOC content of coatings applied during each calendar month according to the equations provided in §60.463.

(c) If thermal incineration is used, each owner or operator subject to the provisions of this subpart shall install, calibrate, operate, and maintain a device that continuously records the combustion temperature of any effluent gases incinerated to achieve compliance with §60.462(a)(2), (3), or (4). This device shall have an accuracy of ±2.5 °C. or ±0.75 percent of the temperature being measured expressed in degrees Celsius, whichever is greater. Each owner or operator shall also record all periods (during actual coating operations) in excess of 3 hours during which the average temperature in any thermal incinerator used to control emissions from an affected facility remains more than 28 °C (50 °F) below the temperature at which compliance with §60.462(a)(2), (3), or (4) was demonstrated during the most recent measurement of incinerator efficiency required by §60.8. The records required by §60.7 shall identify each such occurrence and its duration. If catalytic incineration is used, the owner or operator shall install, calibrate, operate, and maintain a device to monitor and record continuously the gas temperature both upstream and downstream of the incinerator catalyst bed. This device shall have an accuracy of ±2.5 °C. or ±0.75 percent of the temperature being measured expressed in degrees Celsius, whichever is greater. During coating operations, the owner or operator shall record all periods in excess of 3 hours where the average difference between the temperature upstream and downstream of the incinerator catalyst bed remains below 80 percent of the temperature difference at which compliance was demonstrated during the most recent measurement of incinerator efficiency or when the inlet temperature falls more than 28 °C (50 °F) below the temperature at which compliance with §60.462(a)(2), (3), or (4) was demonstrated during the most recent measurement of incinerator efficiency required by §60.8. The records required by §60.7 shall identify each such occurrence and its duration.

[47 FR 49612, Nov. 1, 1982; 48 FR 1056, Jan. 10, 1983, as amended at 65 FR 61761, Oct. 17, 2000]

Back to Top

§60.465 Reporting and recordkeeping requirements.

(a) Where compliance with the numerical limit specified in §60.462(a) (1), (2), or (4) is achieved through the use of low VOC-content coatings without emission control devices or through the use of higher VOC-content coatings in conjunction with emission control devices, each owner or operator subject to the provisions of this subpart shall include in the initial compliance report required by §60.8 the weighted average of the VOC content of coatings used during a period of one calendar month for each affected facility. Where compliance with §60.462(a)(4) is achieved through the intermittent use of a control device, reports shall include separate values of the weighted average VOC content of coatings used with and without the control device in operation.

(b) Where compliance with §60.462(a)(2), (3), or (4) is achieved through the use of an emission control device that destroys VOC's, each owner or operator subject to the provisions of this subpart shall include the following data in the initial compliance report required by §60.8:

(1) The overall VOC destruction rate used to attain compliance with §60.462(a)(2), (3), or (4) and the calculated emission limit used to attain compliance with §60.462(a)(4); and

(2) The combustion temperature of the thermal incinerator or the gas temperature, both upstream and downstream of the incinerator catalyst bed, used to attain compliance with §60.462(a)(2), (3), or (4).

(c) Following the initial performance test, the owner or operator of an affected facility shall identify, record, and submit a written report to the Administrator every calendar quarter of each instance in which the volume-weighted average of the local mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under §60.462. If no such instances have occurred during a particular quarter, a report stating this shall be submitted to the Administrator semiannually.

(d) The owner or operator of each affected facility shall also submit reports at the frequency specified in §60.7(c) when the incinerator temperature drops as defined under §60.464(c). If no such periods occur, the owner or operator shall state this in the report.

(e) Each owner or operator subject to the provisions of this subpart shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions from each affected facility and to determine the monthly emission limit, where applicable. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain, at the source, daily records of the incinerator combustion temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed.

[47 FR 49612, Nov. 1, 1982, as amended at 55 FR 51383, Dec. 13, 1990; 56 FR 20497, May 3, 1991; 65 FR 61761, Oct. 17, 2000]

Back to Top

§60.466 Test methods and procedures.

(a) The reference methods in appendix A to this part, except as provided under §60.8(b), shall be used to determine compliance with §60.462 as follows:

(1) Method 24, or data provided by the formulator of the coating, shall be used for determining the VOC content of each coating as applied to the surface of the metal coil. In the event of a dispute, Method 24 shall be the reference method. When VOC content of waterborne coatings, determined by Method 24, is used to determine compliance of affected facilities, the results of the Method 24 analysis shall be adjusted as described in Section 12.6 of Method 24;

(2) Method 25, both for measuring the VOC concentration in each gas stream entering and leaving the control device on each stack equipped with an emission control device and for measuring the VOC concentration in each gas stream emitted directly to the atmosphere;

(3) Method 1 for sample and velocity traverses;

(4) Method 2 for velocity and volumetric flow rate;

(5) Method 3 for gas analysis; and

(6) Method 4 for stack gas moisture.

(b) For Method 24, the coating sample must be at least a 1-liter sample taken at a point where the sample will be representative of the coating as applied to the surface of the metal coil.

(c) For Method 25, the sampling time for each of three runs is to be at least 60 minutes, and the minimum sampling volume is to be at least 0.003 dscm (0.11 dscf); however, shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Administrator.

(d) The Administrator will approve testing of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Administrator that testing of representative stacks yields results comparable to those that would be obtained by testing all stacks.

[47 FR 49612, Nov. 1, 1982, as amended at 51 FR 22938, June 24, 1986; 65 FR 61761, Oct. 17, 2000]

Appendix E

40 C.F.R. Part 60 Subpart IIII

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Title 40: Protection of Environment
PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

Contents

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

Back to Top

WHAT THIS SUBPART COVERS

Back to Top

§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) and other persons as specified in paragraphs (a)(1) through (4) 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 any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of §60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction 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.

(e) Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

Back to Top

Emission Standards for Manufacturers

Back to Top

§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 the following non-emergency stationary CI ICE 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:

(1) Their 2007 model year through 2012 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;

(2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(e) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards and other requirements for new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.110, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 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.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 1 to 40 CFR 1042.1 identifies 40 CFR part 1042 as being applicable, 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the Federal Aid Highway System (FAHS); and

(2) Marine offshore installations.

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

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

Back to Top

§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) [Reserved]

(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.

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE 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:

(1) Their 2007 model year through 2012 emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder;

(3) Their 2013 model year emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder; and

(4) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(f) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE to the certification emission standards and other requirements applicable to Tier 3 new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power less than 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(g) Notwithstanding the requirements in paragraphs (a) through (d) of this section, stationary emergency CI internal combustion engines identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 2 to 40 CFR 1042.101 identifies Tier 3 standards as being applicable, the requirements applicable to Tier 3 engines in 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the FAHS; and

(2) Marine offshore installations.

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

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

Back to Top

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

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

[76 FR 37968, June 28, 2011]

Back to Top

EMISSION STANDARDS FOR OWNERS AND OPERATORS

Back to Top

§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 engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 grams per kilowatt-hour (g/KW-hr) (12.7 grams per horsepower-hr (g/HP-hr)) when maximum engine speed is less than 130 revolutions per minute (rpm);

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012 and before January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) For engines installed on or after January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $9.0 \cdot n^{-0.20}$ g/KW-hr ($6.7 \cdot n^{-0.20}$ g/HP-hr) where n (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.

(4) 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).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in §60.4212.

(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in paragraphs (a) through (d) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

Back to Top

§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 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 engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in §60.4212.

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in paragraphs (a) through (e) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Back to Top

§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 over the entire life of the engine.

[76 FR 37969, June 28, 2011]

Back to Top

FUEL REQUIREMENTS FOR OWNERS AND OPERATORS

Back to Top

§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, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

(c) [Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

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

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011; 78 FR 6695, Jan. 30, 2013]

Back to Top

OTHER REQUIREMENTS FOR OWNERS AND OPERATORS

Back to Top

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

(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) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

(h) 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 (g) of this section after the dates specified in paragraphs (a) through (g) of this section.

(i) 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.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Back to Top

§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 that does not meet the standards applicable to non-emergency engines, 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.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Back to Top

COMPLIANCE REQUIREMENTS

Back to Top

§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 (e) and §60.4202(e) and (f) using the certification procedures required in 40 CFR part 94, subpart C, or 40 CFR part 1042, subpart C, as applicable, and must test their engines as specified in 40 CFR part 94 or 1042, as applicable.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 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, 40 CFR part 94 or 40 CFR part 1042 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 40 CFR parts 89, 94, 1039 or 1042, 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 40 CFR parts 89, 94, 1039 or 1042, 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 40 CFR parts 89, 94, 1039 or 1042 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.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Back to Top

§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 do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) 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 emission-related specifications, except as permitted in paragraph (g) of this section.

(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) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(e) or §60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in §60.4204(e) or §60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in §60.4212 or §60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand

response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

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

demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011; 78 FR 6695, Jan. 30, 2013]

Back to Top

TESTING REQUIREMENTS FOR OWNERS AND OPERATORS

Back to Top

§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 (e) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(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:

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

View or download PDF

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.

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

Back to Top

§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 (f) 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:

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

View or download PDF

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.

$$C_{adj} = C_d \frac{5.9}{20.9 - \% O_2} \qquad \text{(Eq. 3)}$$

View or download PDF

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.

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

$\%O_2$ = 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_2concentration 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:

$$F_o = \frac{0.209_{F_d}}{F_c} \qquad \text{(Eq. 4)}$$

View or download PDF

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, dsm^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, dsm^3/J ($dscf/10^6$ Btu).

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

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

View or download PDF

Where:

X_{CO2} = 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:

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

View or download PDF

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_xin the engine exhaust using Equation 7 of this section:

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

View or download PDF

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_x concentration in ppm.

$1.912x10^{-3}$ = 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:

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

View or download PDF

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.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

Back to Top

NOTIFICATION, REPORTS, AND RECORDS FOR OWNERS AND OPERATORS

Back to Top

§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.

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in §60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in §60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purposes specified in §60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §60.4.

[71 FR 39172, July 11, 2006, as amended at 78 FR 6696, Jan. 30, 2013]

Back to Top

SPECIAL REQUIREMENTS

Back to Top

§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 with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §§60.4202 and 60.4205.

(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.

(c) Stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

Back to Top

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

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in areas of Alaska not accessible by the FAHS may meet the requirements of this subpart by manufacturing and installing engines meeting the requirements of 40 CFR parts 94 or 1042, as appropriate, rather than the otherwise applicable requirements of 40 CFR parts 89 and 1039, as indicated in sections §§60.4201(f) and 60.4202(g) of this subpart.

(c) Manufacturers, owners and operators of stationary CI ICE that are located in areas of Alaska not accessible by the FAHS may choose to meet the applicable emission standards for emergency engines in §§60.4202 and 60.4205, and not those for non-emergency engines in §60.4201 and §60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine that was not certified as meeting Tier 4 PM standards, must meet the applicable requirements for PM in §§60.4201 and 60.4204 or install a PM emission control device that achieves PM emission reductions of 85 percent, or 60 percent for engines with a displacement of greater than or equal to 30 liters per cylinder, compared to engine-out emissions.

(d) The provisions of §60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS.

(e) The provisions of §60.4208(a) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and §60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.

[76 FR 37971, June 28, 2011]

Back to Top

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

Owners and operators of stationary CI ICE that do not use diesel fuel 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 §60.4204 or §60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

Back to Top

General Provisions

Back to Top

§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.

Back to Top

§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.

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions 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).

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

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

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

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

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

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 reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in §60.4211(f) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in §60.4211(f), then it is not considered to be an emergency stationary ICE under this subpart.

(1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. 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.

(2) The stationary ICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §60.4211(f).

(3) The stationary ICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §60.4211(f)(2)(ii) or (iii) and §60.4211(f)(3)(i).

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.

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

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

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 the calendar year in which an engine is manufactured (see “date of manufacture”), except as follows:

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

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

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, aircraft, 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.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011; 78 FR 6696, Jan. 30, 2013]

Back to Top

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		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

(175≤HP<300)					
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)

Back to Top

Table 2 to Subpart IIII 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)

Back to Top

Table 3 to Subpart IIII 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)[1]
KW<75 (HP<100)	2011

75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

[1]Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 KW (600 HP) and a rated speed of greater than 2,650 revolutions per minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Back to Top

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)

[1]For 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.

[2]For 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.

[3]In 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.

Back to Top

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

Back to Top

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

[1]Engine speed: ±2 percent of point.

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

Back to Top

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:

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 number/location of traverse points at the inlet and outlet of the control device;		(a) For NO_x, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.

		ii. Measure O_2 at the inlet and outlet of the control device;	(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(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	(2) Method 4 of 40 CFR part 60, appendix A-3, 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 control device.	(3) Method 7E of 40 CFR part 60, appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(d) NO_x 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.
	b. Limit the concentration of NO_x in the stationary CI internal combustion engine exhaust.	i. Select the sampling port location and number/location of traverse points at the exhaust of the stationary internal combustion engine;		(a) For NO_x, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1

				of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location;	(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(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	(2) Method 4 of 40 CFR part 60, appendix A-3, 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; if using a control device, the sampling site must be located at the outlet of the control device.	(3) Method 7E of 40 CFR part 60, Appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(d) NO_x 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.
	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-1	(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-2	(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-3	(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-3	(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-1	(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;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(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 of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of 40 CFR part 60, appendix A-3	(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	(4) Method 5 of 40 CFR part 60, appendix A-3	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test

		combustion engine.		consist of the average of the three 1-hour or longer runs.

[79 FR 11251, Feb. 27, 2014]

Back to Top

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	

Back to Top

Appendix F

40 C.F.R. Part 63 Subpart ZZZZ

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating

Title 40: Protection of Environment
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Contents

SOURCE: 69 FR 33506, June 15, 2004, unless otherwise noted.

Back to Top

WHAT THIS SUBPART COVERS

Back to Top

§63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

Back to Top

§63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008; 78 FR 6700, Jan. 30, 2013]

Back to Top

§63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010; 78 FR 6700, Jan. 30, 2013]

Back to Top

§63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 78 FR 6701, Jan. 30, 2013]

Back to Top

EMISSION AND OPERATING LIMITATIONS

Back to Top

§63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

Back to Top

§63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

Back to Top

§63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

[78 FR 6701, Jan. 30, 2013]

Back to Top

§63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either paragraph (b)(1) or (2) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either paragraph (b)(1) or (2) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart.

(1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).

(2) The stationary RICE is located at an area source that meets paragraphs (b)(2)(i), (ii), and (iii) of this section.

(i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in 40 CFR 55.2, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. You must meet all of the following management practices:

(1) Change oil every 1,000 hours of operation or annually, whichever comes first. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement.

(2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018, choose to comply with the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system requirements in §63.6625(g). You must comply with the emission limitations in Table 2d and operating limitations in Table 2b that apply for non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018. You must also comply with the crankcase ventilation system requirements in §63.6625(g) by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018.

(e) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 3 (Tier 2 for engines above 560 kilowatt (kW)) emission standards in Table 1 of 40 CFR 89.112, you may comply with the requirements under this part by meeting the requirements for Tier 3 engines (Tier 2 for engines above 560 kW) in 40 CFR part 60 subpart IIII instead of the emission limitations and other requirements that would otherwise apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in §63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6701, Jan. 30, 2013]

Back to Top

§63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2), or are on offshore vessels that meet §63.6603(c) are exempt from the requirements of this section.

[78 FR 6702, Jan. 30, 2013]

Back to Top

GENERAL COMPLIANCE REQUIREMENTS

Back to Top

§63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010, as amended at 78 FR 6702, Jan. 30, 2013]

Back to Top

TESTING AND INITIAL COMPLIANCE REQUIREMENTS

Back to Top

§63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

Back to Top

§63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

Back to Top

§63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

Back to Top

§63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

Back to Top

§63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

(1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

(3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

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

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (Eq.\ 1)$$

View or download PDF

Where:

C_i = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

C_o = concentration of CO, THC, or formaldehyde at the control device outlet, and

R = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2 concentration is measured in lieu of oxygen concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (e)(2)(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:

$$F_o = \frac{0.209\ F_d}{F_c} \quad (Eq.\ 2)$$

View or download PDF

Where:

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

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

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

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

$$X_{CO2} = \frac{5.9}{F_o} \quad (Eq.\ 3)$$

View or download PDF

Where:

X_{CO2} = 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 CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO_2} \quad (Eq.\ 4)$$

View or download PDF

Where:

C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O_2.

C_d = Measured concentration of CO, THC, or formaldehyde, uncorrected.

X_{CO2} = CO_2 correction factor, percent.

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

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

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

(3) 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;

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

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

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,*wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010; 78 FR 6702, Jan. 30, 2013]

Back to Top

§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O_2 or CO_2 according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2 concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (*e.g.,* thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start stationary RICE located at an area source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet §63.6603(c) do not have to meet the requirements of this paragraph (g).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6703, Jan. 30, 2013]

Back to Top

§63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least three test runs.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

[69 FR 33506, June 15, 2004, as amended at 78 FR 6704, Jan. 30, 2013]

Back to Top

CONTINUOUS COMPLIANCE REQUIREMENTS

Back to Top

§63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

Back to Top

§63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least one test run.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6704, Jan. 30, 2013]

Back to Top

NOTIFICATIONS, REPORTS, AND RECORDS

Back to Top

§63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in §63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in §63.6603(d) and identifying the state or local regulation that the engine is subject to.

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6705, Jan. 30, 2013]

Back to Top

§63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(ii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in §63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purpose specified in §63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in §63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in §63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §63.13.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010; 78 FR 6705, Jan. 30, 2013]

Back to Top

§63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

Back to Top

§63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Back to Top

OTHER REQUIREMENTS AND INFORMATION

Back to Top

§63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

Back to Top

§63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

Back to Top

§63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Alaska Railbelt Grid means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Backup power for renewable energy means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see §63.14).

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101-549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

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

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

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 fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE 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 RICE used to pump water in the case of fire or flood, etc.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §63.6640(f).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §63.6640(f)(2)(ii) or (iii) and §63.6640(f)(4)(i) or (ii).

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

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

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

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

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

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

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

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

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

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

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_x) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_x, CO, and volatile organic compounds (VOC) into CO_2, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Remote stationary RICE means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_x (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for 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 reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

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

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

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

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011; 78 FR 6706, Jan. 30, 2013]

Back to Top

Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .

1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Back to Top

Table 1b **to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions**

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and using NSCR;	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.[1]
2. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more,	Comply with any operating limitations approved by the Administrator.

if applicable) and not using NSCR; or	
existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and not using NSCR.	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6706, Jan. 30, 2013]

Back to Top

Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O_2. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O_2 until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	

	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Back to Top

Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; and existing CI stationary RICE >500 HP:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst.	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. Existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and

	b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
3. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and	Comply with any operating limitations approved by the Administrator.
New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and	
existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6707, Jan. 30, 2013]

Back to Top

Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary	a. Change oil and filter every 500 hours of	Minimize the engine's time spent at idle and minimize the engine's

CI RICE[1]	operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2.	
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions	

	by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	

9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2.	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2.	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2.	
12. Non-emergency, non-black start stationary RICE 100≤HP≤500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O_2.	

[1]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[2]Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2c of this subpart.

[3]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[78 FR 6708, Jan. 30, 2013, as amended at 78 FR 14457, Mar. 6, 2013]

Back to Top

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[1] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner	

	every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]; b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace	

	as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
9. Non-emergency, non-black start 4SLB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.	
10. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	

	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
11. Non-emergency, non-black start 4SRB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
12. Non-emergency, non-black start 4SRB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	

	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[78 FR 6709, Jan. 30, 2013]

Back to Top

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE >500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥250 HP located at major sources; and new or reconstructed CI stationary RICE >500 HP located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]
2. 4SRB stationary RICE ≥5,000 HP located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE >500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI	Limit or reduce CO	Conduct subsequent

stationary RICE >500 HP that are not limited use stationary RICE	emissions and not using a CEMS	performance tests every 8,760 hours or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE >500 HP that are limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 5 years, whichever comes first.

[1]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6711, Jan. 30, 2013]

Back to Top

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. reduce CO emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For CO and O_2 measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at

				`3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Measure the O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[ac] (heated probe not necessary)	(b) Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
		iii. Measure the CO at the inlet and the outlet of the control device	(1) ASTM D6522-00 (Reapproved 2005)[abc] (heated probe not necessary) or Method 10 of 40 CFR part 60, appendix A-4	(c) The CO concentration must be at 15 percent O_2, dry basis.
2. 4SRB stationary RICE	a. reduce formaldehyde emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For formaldehyde, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at `3-point long line';

				otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A.
		ii. Measure O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[a] (heated probe not necessary)	(a) Measurements to determine O_2 concentration must be made at the same time as the measurements for formaldehyde or THC concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03[a]	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.
		iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formalde-hyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03[a], provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde 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.
		v. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	(1) Method 25A, reported as propane, of 40 CFR part 60, appendix A-7	(a) THC 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.
3.	a. limit the	i. Select the		(a) For formaldehyde,

Stationary RICE	concentra-tion of formalde-hyde or CO in the stationary RICE exhaust	sampling port location and the number/location of traverse points at the exhaust of the stationary RICE; and		CO, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A. If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[a] (heated probe not necessary)	(a) Measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iii. Measure moisture content of the station-ary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for

			ASTM D 6348-03[a]	formaldehyde or CO concentration.
		iv. Measure formalde-hyde at the exhaust of the station-ary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03[a], provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde 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.
		v. measure CO at the exhaust of the station-ary RICE	(1) Method 10 of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (2005)[ac], Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03[a]	(a) CO 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.

[a]You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[b]You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[79 FR 11290, Feb. 27, 2014]

Back to Top

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-	a. Reduce CO	i. The average reduction of emissions

emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	emissions and using oxidation catalyst, and using a CPMS	of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the

		Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and
		ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.

7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the

		requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
11. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.
13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2;
		ii. You have installed a CPMS to continuously monitor catalyst inlet

		temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F.
14. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1250 °F.

[78 FR 6712, Jan. 30, 2013]

Back to Top

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved[a]; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour

>500 HP located at a major source of HAP		rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved[a]; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and
		iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as

		daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent.[a]
7. New or reconstructed non-emergency stationary RICE >500	a. Limit the concentration of	i. Conducting semiannual performance tests for formaldehyde

HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	to demonstrate that your emissions remain at or below the formaldehyde concentration limit[a]; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit[a]; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the

CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE		engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure

		drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and

		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
14. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or

		iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.
15. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.

[a]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6715, Jan. 30, 2013]

Back to Top

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at	Compliance report	a. If there are no deviations from any emission limitations or operating	i. Semiannually according to the requirements in

a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP		limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or	§63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.
		b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or	i. Semiannually according to the requirements in §63.6650(b).
		c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4).	i. Semiannually according to the requirements in §63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the	i. Annually, according to the requirements in §63.6650.

		gross heat input on an annual basis; and	
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 2.a.i.
		c. Any problems or errors suspected with the meters.	i. See item 2.a.i.
3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Compliance report	a. The results of the annual compliance demonstration, if conducted during the reporting period.	i. Semiannually according to the requirements in §63.6650(b)(1)-(5).
4. Emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operate for the purposes specified in §63.6640(f)(4)(ii)	Report	a. The information in §63.6650(h)(1)	i. annually according to the requirements in §63.6650(h)(2)-(3).

[78 FR 6719, Jan. 30, 2013]

Back to Top

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.

§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)-(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at

			§§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)-(3)	Multiple effluents and multiple	Yes.	

	monitoring systems		
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	No	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	No	
§63.8(c)(2)-(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)-(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)-(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State	Yes.	

	delegation of notification requirements		
§63.9(b)(1)-(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.
§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)-(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.

			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§63.10(b)(1)	Record retention	Yes	Except that the most recent 2 years of data do not have to be retained on site.
§63.10(b)(2)(i)-(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)-(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)-(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	

§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i)(C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010, as amended at 78 FR 6720, Jan. 30, 2013]

Back to Top

Appendix A to Subpart ZZZZ of Part 63—Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

1.0 SCOPE AND APPLICATION. WHAT IS THIS PROTOCOL?

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O_2) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

1.1 Analytes. What does this protocol determine?

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O_2).

Analyte	CAS No.	Sensitivity
Carbon monoxide (CO)	630-08-0	Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.
Oxygen (O_2)	*7782-44-7*	

1.2 Applicability. When is this protocol acceptable?

This protocol is applicable to 40 CFR part 63, subpart ZZZZ. Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

1.3 Data Quality Objectives. How good must my collected data be?

Refer to Section 13 to verify and document acceptable analyzer performance.

1.4 Range. What is the targeted analytical range for this protocol?

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and O_2, or no more than twice the permitted CO level.

1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

2.0 SUMMARY OF PROTOCOL

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O_2 gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

3.0 DEFINITIONS

3.1 Measurement System. The total equipment required for the measurement of CO and O_2 concentrations. The measurement system consists of the following major subsystems:

3.1.1 Data Recorder. A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

3.1.2 Electrochemical (EC) Cell. A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

3.1.3 Interference Gas Scrubber. A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

3.1.4 Moisture Removal System. Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

3.1.5 Sample Interface. The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

3.2 Nominal Range. The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

3.3 Calibration Gas. A vendor certified concentration of a specific analyte in an appropriate balance gas.

3.4 Zero Calibration Error. The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

3.5 Up-Scale Calibration Error. The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

3.6 Interference Check. A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

3.7 Repeatability Check. A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

3.8 Sample Flow Rate. The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

3.9 Sampling Run. A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O_2 and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

3.10 Sampling Day. A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

3.11 Pre-Sampling Calibration/Post-Sampling Calibration Check. The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.

3.12 Performance-Established Configuration. The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

4.0 Interferences.

When present in sufficient concentrations, NO and NO_2 are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

5.0 SAFETY. [RESERVED]

6.0 EQUIPMENT AND SUPPLIES.

6.1 What equipment do I need for the measurement system?

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

6.2 Measurement System Components.

6.2.1 Sample Probe. A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

6.2.2 Sample Line. Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

6.2.3 Calibration Assembly (optional). A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

6.2.4 Particulate Filter (optional). Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

6.2.5 Sample Pump. A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.8 Sample Flow Rate Monitoring. An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

6.2.9 Sample Gas Manifold (optional). A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.10 EC cell. A device containing one or more EC cells to determine the CO and O_2 concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

6.2.11 Data Recorder. A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O_2; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

6.2.12 Interference Gas Filter or Scrubber. A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 Reagents and Standards. What calibration gases are needed?

7.1 Calibration Gases. CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and O_2. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ±5 percent of the label value. Dry ambient air (20.9 percent O_2) is acceptable for calibration of the O_2 cell. If needed, any lower percentage O_2 calibration gas must be a mixture of O_2 in nitrogen.

7.1.1 Up-Scale CO Calibration Gas Concentration. Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

7.1.2 Up-Scale O_2 Calibration Gas Concentration.

Select an O_2 gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O_2. When the average exhaust gas O_2 readings are above 6 percent, you may use dry ambient air (20.9 percent O_2) for the up-scale O_2 calibration gas.

7.1.3 Zero Gas. Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO_2).

8.0 Sample Collection and Analysis

8.1 Selection of Sampling Sites.

8.1.1 Control Device Inlet. Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.1.2 Exhaust Gas Outlet. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.2 Stack Gas Collection and Analysis. Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the “sample conditioning phase” once per minute until constant readings are obtained. Then begin the “measurement data phase” and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the “measurement data phase” readings to calculate the average stack gas CO and O_2 concentrations.

8.3 EC Cell Rate. Maintain the EC cell sample flow rate so that it does not vary by more than ±10 percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check. Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than ±3 percent, as instructed by the EC cell manufacturer.

9.0 Quality Control (Reserved)

10.0 Calibration and Standardization

10.1 Pre-Sampling Calibration. Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

10.1.1 Zero Calibration. For both the O_2 and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

10.1.2 Zero Calibration Tolerance. For each zero gas introduction, the zero level output must be less than or equal to ±3 percent of the up-scale gas value or ±1 ppm, whichever is less restrictive, for the CO channel and less than or equal to ±0.3 percent O_2 for the O_2 channel.

10.1.3 Up-Scale Calibration. Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this “sample conditioning phase” once per minute until readings are constant for at least two minutes. Then begin the “measurement data phase” and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

10.1.4 Up-Scale Calibration Error. The mean of the difference of the “measurement data phase” readings from the reported standard gas value must be less than or equal to ±5 percent or ±1 ppm for CO or ±0.5 percent O_2, whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single “measurement data phase” reading must be less than or equal to ±2 percent or ±1 ppm for CO or ±0.5 percent O_2, whichever is less restrictive, respectively.

10.2 Post-Sampling Calibration Check. Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

12.0 Calculations and Data Analysis

Determine the CO and O_2 concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the “measurement data phase”.

13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

13.1 Measurement Data Phase Performance Check. Calculate the mean of the readings from the “measurement data phase”. The maximum allowable deviation from the mean for each of the individual readings is ±2 percent, or ±1 ppm, whichever is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to Section 10.1.4. The EC cell flow rate must conform to the specification in Section 8.3.

Example: A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than ±2 percent *or* ±1 ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed).

13.2 Interference Check. Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and NO_2 gas standards that are generally recognized as representative of diesel-fueled engine NO and NO_2 emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

13.2.1 Interference Response. The combined NO and NO_2 interference response should be less than or equal to ±5 percent of the up-scale CO calibration gas concentration.

13.3 Repeatability Check. Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

13.3.1 Repeatability Check Procedure. Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow Section 10.1.3. Use Figure 1 to record all data. Repeat the run three times for a total of four complete runs. During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

13.3.2 Repeatability Check Calculations. Determine the highest and lowest average “measurement data phase” CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than ±3 percent or ±1 ppm of the up-scale gas value, whichever is less restrictive.

14.0 POLLUTION PREVENTION (RESERVED)

15.0 WASTE MANAGEMENT (RESERVED)

16.0 ALTERNATIVE PROCEDURES (RESERVED)

17.0 REFERENCES

(1) “Development of an Electrochemical Cell Emission Analyzer Test Protocol”, Topical Report, Phil Juneau, Emission Monitoring, Inc., July 1997.

(2) “Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers, and Process Heaters Using Portable Analyzers”, EMC Conditional Test Protocol 30 (CTM-30), Gas Research Institute Protocol GRI-96/0008, Revision 7, October 13, 1997.

(3) “ICAC Test Protocol for Periodic Monitoring”, EMC Conditional Test Protocol 34 (CTM-034), The Institute of Clean Air Companies, September 8, 1999.

(4) “Code of Federal Regulations”, Protection of Environment, 40 CFR, Part 60, Appendix A, Methods 1-4; 10.

TABLE 1: APPENDIX A—SAMPLING RUN DATA.

Facility___________ Engine I.D.___________ Date______											
Run Type:	(_)			(_)				(_)			(_)
(X)	Pre-Sample Calibration			Stack Gas Sample				Post-Sample Cal. Check			Repeatability Check
Run #	1	1	2	2	3	3	4	4	Time	Scrub. OK	Flow- Rate
Gas	O_2	CO	O_2	CO	O_2	CO	O_2	CO			
Sample Cond. Phase											
″											
″											
″											
″											
Measurement Data Phase											
″											

″											
″											
″											
″											
″											
″											
″											
″											
″											
Mean											
Refresh Phase											
″											
″											
″											
″											

[78 FR 6721, Jan. 30, 2013]

Appendix G

40 C.F.R. Part 63 Subpart YYYYY

National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities

Title 40: Protection of Environment
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Subpart YYYYY—National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities

Contents

SOURCE: 72 FR 74111, Dec. 28, 2007, unless otherwise noted.

Back to Top

APPLICABILITY AND COMPLIANCE DATES

Back to Top

§63.10680 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate an electric arc furnace (EAF) steelmaking facility that is an area source of hazardous air pollutant (HAP) emissions.

(b) This subpart applies to each new or existing affected source. The affected source is each EAF steelmaking facility.

(1) An affected source is existing if you commenced construction or reconstruction of the affected source on or before September 20, 2007.

(2) An affected source is new if you commenced construction or reconstruction of the affected source after September 20, 2007.

(c) This subpart does not apply to research and development facilities, as defined in section 112(c)(7) of the Clean Air Act (CAA).

(d) If you own or operate an area source subject to this subpart, you must have or obtain a permit under 40 CFR part 70 or 40 CFR part 71.

Back to Top

§63.10681 What are my compliance dates?

(a) Except as provided in paragraph (b) of this section, if you own or operate an existing affected source, you must achieve compliance with the applicable provisions of this subpart by no later than June 30, 2008.

(b) If you own or operate an existing affected source, you must achieve compliance with opacity limit in §63.10686(b)(2) or (c)(2) by no later than December 28, 2010 if you demonstrate to the satisfaction of the permitting authority that additional time is needed to install or modify emission control equipment.

(c) If you start up a new affected source on or before December 28, 2007, you must achieve compliance with the applicable provisions of this subpart by no later than December 28, 2007.

(d) If you start up a new affected source after December 28, 2007, you must achieve compliance with the applicable provisions of this subpart upon startup of your affected source.

Back to Top

STANDARDS AND COMPLIANCE REQUIREMENTS

Back to Top

§63.10685 What are the requirements for the control of contaminants from scrap?

(a) *Chlorinated plastics, lead, and free organic liquids.* For metallic scrap utilized in the EAF at your facility, you must comply with the requirements in either paragraph (a)(1) or (2) of this section. You may have certain scrap at your facility subject to paragraph (a)(1) of this section and other scrap subject to paragraph (a)(2) of this section provided the scrap remains segregated until charge make-up.

(1) *Pollution prevention plan.* For the production of steel other than leaded steel, you must prepare and implement a pollution prevention plan for metallic scrap selection and inspection to minimize the amount of chlorinated plastics, lead, and free organic liquids that is charged to the furnace. For the production of leaded steel, you must prepare and implement a pollution prevention plan for scrap selection and inspection to minimize the amount of chlorinated plastics and free organic liquids in the scrap that is charged to the furnace. You must submit the scrap pollution prevention plan to the permitting authority for approval. You must operate according to the plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the permitting authority within 60 days following disapproval of a plan. You may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the permitting authority. You must keep a copy of the plan onsite, and you must provide training on the plan's requirements to all plant personnel with materials acquisition or inspection duties. Each plan must include the information in paragraphs (a)(1)(i) through (iii) of this section:

(i) Specifications that scrap materials must be depleted (to the extent practicable) of undrained used oil filters, chlorinated plastics, and free organic liquids at the time of charging to the furnace.

(ii) A requirement in your scrap specifications for removal (to the extent practicable) of lead-containing components (such as batteries, battery cables, and wheel weights) from the scrap, except for scrap used to produce leaded steel.

(iii) Procedures for determining if the requirements and specifications in paragraph (a)(1) of this section are met (such as visual inspection or periodic audits of scrap providers) and procedures for taking corrective actions with vendors whose shipments are not within specifications.

(iv) The requirements of paragraph (a)(1) of this section do not apply to the routine recycling of baghouse bags or other internal process or maintenance materials in the furnace. These exempted materials must be identified in the pollution prevention plan.

(2) *Restricted metallic scrap.* For the production of steel other than leaded steel, you must not charge to a furnace metallic scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, lead-containing components, chlorinated plastics, or free organic liquids. For the production of leaded steel, you must not charge to the furnace metallic scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, chlorinated plastics, or free organic liquids. This restriction does not apply to any post-consumer engine blocks, post-consumer oil filters, or oily turnings that are processed or cleaned to the extent practicable such that the materials do not include lead components, chlorinated plastics, or free organic liquids. This restriction does not apply to motor vehicle scrap that is charged to recover the chromium or nickel content if you meet the requirements in paragraph (b)(3) of this section.

(b) *Mercury requirements.* For scrap containing motor vehicle scrap, you must procure the scrap pursuant to one of the compliance options in paragraphs (b)(1), (2), or (3) of this section for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, you must procure the scrap pursuant to the requirements in paragraph (b)(4) of this section for each scrap provider, contract, or shipment. You may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision.

(1) *Site-specific plan for mercury switches.* You must comply with the requirements in paragraphs (b)(1)(i) through (v) of this section.

(i) You must include a requirement in your scrap specifications for removal of mercury switches from vehicle bodies used to make the scrap.

(ii) You must prepare and operate according to a plan demonstrating how your facility will implement the scrap specification in paragraph (b)(1)(i) of this section for removal of mercury switches. You must submit the plan to the permitting authority for approval. You must operate according to this plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the permitting authority within 60 days following disapproval of a plan. You may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the permitting authority. The permitting authority may change the approval status of the plan upon 90-days written notice based upon the semiannual compliance report or other information. The plan must include:

(A) A means of communicating to scrap purchasers and scrap providers the need to obtain or provide motor vehicle scrap from which mercury switches have been removed and the need to ensure the proper management of the mercury switches removed from that scrap as required under the rules implementing subtitle C of the Resource Conservation and Recovery Act (RCRA) (40 CFR parts 261 through 265 and 268). The plan must include documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the permitting authority, you must provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols;

(B) Provisions for obtaining assurance from scrap providers that motor vehicle scrap provided to the facility meet the scrap specification;

(C) Provisions for periodic inspections or other means of corroboration to ensure that scrap providers and dismantlers are implementing appropriate steps to minimize the presence of mercury switches in motor vehicle scrap and that the mercury switches removed are being properly managed, including the minimum frequency such means of corroboration will be implemented; and

(D) Provisions for taking corrective actions (i.e., actions resulting in scrap providers removing a higher percentage of mercury switches or other mercury-containing components) if needed, based on the results of procedures implemented in paragraph (b)(1)(ii)(C) of this section).

(iii) You must require each motor vehicle scrap provider to provide an estimate of the number of mercury switches removed from motor vehicle scrap sent to your facility during the previous year and the basis for the estimate. The permitting authority may request documentation or additional information at any time.

(iv) You must establish a goal for each scrap provider to remove at least 80 percent of the mercury switches. Although a site-specific plan approved under paragraph (b)(1) of this section may require only the removal of convenience light switch mechanisms, the permitting authority will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal.

(v) For each scrap provider, you must submit semiannual progress reports to the permitting authority that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches removed, and certification that the removed mercury switches were recycled at RCRA-permitted facilities or otherwise properly managed pursuant to RCRA subtitle C regulations referenced in paragraph (b)(1)(ii)(A) of this section. This information can be submitted in aggregated form and does not have to be submitted for each scrap provider, contract, or shipment. The permitting authority may change the approval status of a site-specific plan following 90-days notice based on the progress reports or other information.

(2) *Option for approved mercury programs.* You must certify in your notification of compliance status that you participate in and purchase motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator based on the criteria in paragraphs (b)(2)(i) through (iii) of this section. If you purchase motor vehicle scrap from a broker, you must certify that all scrap received from that broker was obtained from other scrap providers who participate in a program for the removal of mercury switches that has been approved by the Administrator based on the criteria in paragraphs (b)(2)(i) through (iii) of this section. The National Vehicle Mercury Switch Recovery Program and the Vehicle Switch Recovery Program mandated by Maine State law are EPA-approved programs under paragraph (b)(2) of this section unless and until the Administrator disapproves the program (in part or in whole) under paragraph (b)(2)(iii) of this section.

(i) The program includes outreach that informs the dismantlers of the need for removal of mercury switches and provides training and guidance for removing mercury switches;

(ii) The program has a goal to remove at least 80 percent of mercury switches from the motor vehicle scrap the scrap provider processes. Although a program approved under paragraph (b)(2) of this section may require only the removal of convenience light switch mechanisms, the Administrator will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal; and

(iii) The program sponsor agrees to submit progress reports to the Administrator no less frequently than once every year that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and certification that the recovered mercury switches were recycled at facilities with permits as required under the rules implementing subtitle C of RCRA (40 CFR parts 261 through 265 and 268). The progress reports must be based on a database that includes data for each program participant; however, data may be aggregated at the State level for progress reports that will be publicly available. The Administrator may change the approval status of a program or portion of a program (e.g., at the State level) following 90-days notice based on the progress reports or on other information.

(iv) You must develop and maintain onsite a plan demonstrating the manner through which your facility is participating in the EPA-approved program.

(A) The plan must include facility-specific implementation elements, corporate-wide policies, and/or efforts coordinated by a trade association as appropriate for each facility.

(B) You must provide in the plan documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the permitting authority, you must provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols.

(C) You must conduct periodic inspections or provide other means of corroboration to ensure that scrap providers are aware of the need for and are implementing appropriate steps to minimize the presence of mercury in scrap from end-of-life vehicles.

(3) *Option for specialty metal scrap.* You must certify in your notification of compliance status that the only materials from motor vehicles in the scrap are materials recovered for their specialty alloy (including, but not limited to, chromium, nickel, molybdenum, or other alloys) content (such as certain exhaust systems) and, based on the nature of the scrap and purchase specifications, that the type of scrap is not reasonably expected to contain mercury switches.

(4) *Scrap that does not contain motor vehicle scrap.* For scrap not subject to the requirements in paragraphs (b)(1) through (3) of this section, you must certify in your notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap.

(c) *Recordkeeping and reporting requirements.* In addition to the records required by §63.10, you must keep records to demonstrate compliance with the requirements for your pollution prevention plan in paragraph (a)(1) of this section and/or for the use of only restricted scrap in paragraph (a)(2) of this section and for mercury in paragraphs (b)(1) through (3) of this section as applicable. You must keep records documenting compliance with paragraph (b)(4) of this section for scrap that does not contain motor vehicle scrap.

(1) If you are subject to the requirements for a site-specific plan for mercury under paragraph (b)(1) of this section, you must:

(i) Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and

(ii) Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that you have conducted inspections or taken other means of corroboration as required under paragraph (b)(1)(ii)(C) of this section. You may include this information in the semiannual compliance reports required under paragraph (c)(3) of this section.

(2) If you are subject to the option for approved mercury programs under paragraph (b)(2) of this section, you must maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If you purchase motor vehicle scrap from a broker, you must maintain records identifying each broker and documentation that all scrap provided by the broker was obtained from other scrap providers who participate in an approved mercury switch removal program.

(3) You must submit semiannual compliance reports to the Administrator for the control of contaminants from scrap according to the requirements in §63.10(e). The report must clearly identify any deviation from the requirements in paragraphs (a) and (b) of this section and the corrective action taken. You must identify which compliance option in paragraph (b) of this section applies to each scrap provider, contract, or shipment.

Back to Top

§63.10686 What are the requirements for electric arc furnaces and argon-oxygen decarburization vessels?

(a) You must install, operate, and maintain a capture system that collects the emissions from each EAF (including charging, melting, and tapping operations) and argon-oxygen decarburization (AOD) vessel and conveys the collected emissions to a control device for the removal of particulate matter (PM).

(b) Except as provided in paragraph (c) of this section, you must not discharge or cause the discharge into the atmosphere from an EAF or AOD vessel any gases which:

(1) Exit from a control device and contain in excess of 0.0052 grains of PM per dry standard cubic foot (gr/dscf); and

(2) Exit from a melt shop and, due solely to the operations of any affected EAF(s) or AOD vessel(s), exhibit 6 percent opacity or greater.

(c) If you own or operate a new or existing affected source that has a production capacity of less than 150,000 tons per year (tpy) of stainless or specialty steel (as determined by the maximum production if specified in the source's operating permit or EAF capacity and maximum number of operating hours per year), you must not discharge or cause the discharge into the atmosphere from an EAF or AOD vessel any gases which:

(1) Exit from a control device and contain particulate matter (PM) in excess of 0.8 pounds per ton (lb/ton) of steel. Alternatively, the owner or operator may elect to comply with a PM limit of 0.0052 grains per dry standard cubic foot (gr/dscf); and

(2) Exit from a melt shop and, due solely to the operations of any affected EAF(s) or AOD vessel(s), exhibit 6 percent opacity or greater.

(d) Except as provided in paragraph (d)(6) of this section, you must conduct performance tests to demonstrate initial compliance with the applicable emissions limit for each emissions source subject to an emissions limit in paragraph (b) or (c) of this section.

(1) You must conduct each PM performance test for an EAF or AOD vessel according to the procedures in §63.7 and 40 CFR 60.275a using the following test methods in 40 CFR part 60, appendices A-1, A-2, A-3, and A-4:

(i) Method 1 or 1A of appendix A-1 of 40 CFR part 60 to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere.

(ii) Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A-1 of 40 CFR part 60 to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B of appendix A-3 of 40 CFR part 60 to determine the dry molecular weight of the stack gas. You may use ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses" (incorporated by reference—see §63.14) as an alternative to EPA Method 3B.

(iv) Method 4 of appendix A-3 of 40 CFR part 60 to determine the moisture content of the stack gas.

(v) Method 5 or 5D of appendix A-3 of 40 CFR part 60 to determine the PM concentration. Three valid test runs are needed to comprise a PM performance test. For EAF, sample only when metal is being melted and refined. For AOD vessels, sample only when the operation(s) are being conducted.

(2) You must conduct each opacity test for a melt shop according to the procedures in §63.6(h) and Method 9 of appendix A-4 of 40 CFR part 60. When emissions from any EAF or AOD vessel are combined with emissions from emission sources not subject to this subpart, you must demonstrate compliance with the melt shop opacity limit based on emissions from only the emission sources subject to this subpart.

(3) During any performance test, you must monitor and record the information specified in 40 CFR 60.274a(h) for all heats covered by the test.

(4) You must notify and receive approval from the Administrator for procedures that will be used to determine compliance for an EAF or AOD vessel when emissions are combined with those from facilities not subject to this subpart.

(5) To determine compliance with the PM emissions limit in paragraph (c) of this section for an EAF or AOD vessel in a lb/ton of steel format, compute the process-weighted mass emissions (E_p) for each test run using Equation 1 of this section:

$$E_p = \frac{C \times Q \times T}{P \times K} \qquad (\text{Eq. } 1)$$

View or download PDF

Where:

E_p = Process-weighted mass emissions of PM, lb/ton;

C = Concentration of PM or total metal HAP, gr/dscf;

Q = Volumetric flow rate of stack gas, dscf/hr;

T = Total time during a test run that a sample is withdrawn from the stack during steel production cycle, hr;

P = Total amount of metal produced during the test run, tons; and

K = Conversion factor, 7,000 grains per pound.

(6) If you own or operate an existing affected source that is subject to the emissions limits in paragraph (b) or (c) of this section, you may certify initial compliance with the applicable emission limit for one or more emissions sources based on the results of a previous performance test for that emissions source in lieu of the requirement for an initial performance test provided that the test(s) were conducted within 5 years of the compliance date using the methods and procedures specified in paragraph (d)(1) or (2) of this section; the test(s) were for the affected facility; and the test(s) were representative of current or anticipated operating processes and conditions. Should the permitting authority deem the prior test data unacceptable to demonstrate compliance with an applicable emissions limit, the owner or operator must conduct an initial performance test within 180 days of the compliance date or within 90 days of receipt of the notification of disapproval of the prior test, whichever is later.

(e) You must monitor the capture system and PM control device required by this subpart, maintain records, and submit reports according to the compliance assurance monitoring requirements in 40 CFR part 64. The exemption in 40 CFR 64.2(b)(1)(i) for emissions limitations or standards proposed after November 15, 1990 under section 111 or 112 of the CAA does not apply. In lieu of the deadlines for submittal in 40 CFR 64.5, you must submit the monitoring information required by 40 CFR 64.4 to the applicable permitting authority for approval by no later than the compliance date for your affected source for this subpart and operate according to the approved plan by no later than 180 days after the date of approval by the permitting authority.

Back to Top

OTHER INFORMATION AND REQUIREMENTS

Back to Top

§63.10690 What parts of the General Provisions apply to this subpart?

(a) You must comply with the requirements of the NESHAP General Provisions (40 CFR part 63, subpart A) as provided in Table 1 of this subpart.

(b) The notification of compliance status required by §63.9(h) must include each applicable certification of compliance, signed by a responsible official, in paragraphs (b)(1) through (6) of this section.

(1) For the pollution prevention plan requirements in §63.10685(a)(1): “This facility has submitted a pollution prevention plan for metallic scrap selection and inspection in accordance with §63.10685(a)(1)”;

(2) For the restrictions on metallic scrap in §63.10685(a)(2): “This facility complies with the requirements for restricted metallic scrap in accordance with §63.10685(a)(2)”;

(3) For the mercury requirements in §63.10685(b):

(i) “This facility has prepared a site-specific plan for mercury switches in accordance with §63.10685(b)(1)”;

(ii) “This facility participates in and purchases motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the EPA Administrator in accordance with §63.10685(b)(2)” and has prepared a plan demonstrating how the facility participates in the EPA-approved program in accordance with §63.10685(b)(2)(iv);

(iii) “The only materials from motor vehicles in the scrap charged to an electric arc furnace at this facility are materials recovered for their specialty alloy content in accordance with §63.10685(b)(3) which are not reasonably expected to contain mercury switches”; or

(iv) “This facility complies with the requirements for scrap that does not contain motor vehicle scrap in accordance with §63.10685(b)(4).”

(4) This certification of compliance for the capture system requirements in §63.10686(a), signed by a responsible official: “This facility operates a capture system for each electric arc furnace and argon-oxygen decarburization vessel that conveys the collected emissions to a PM control device in accordance with §63.10686(a)”.

(5) If applicable, this certification of compliance for the performance test requirements in §63.10686(d)(6): “This facility certifies initial compliance with the applicable emissions limit in §63.10686(a) or (b) based on the results of a previous performance test in accordance with §63.10686(d)(6)”.

(6) This certification of compliance for the monitoring requirements in §63.10686(e), signed by a responsible official: “This facility has developed and submitted proposed monitoring information in accordance with 40 CFR part 64”.

Back to Top

§63.10691 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the EPA or a delegated authority such as a State, local, or tribal agency. If the EPA Administrator has delegated authority to a State, local, or tribal agency, then that Agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (6) of this section.

(1) Approval of an alternative non-opacity emissions standard under 40 CFR 63.6(g).

(2) Approval of an alternative opacity emissions standard under §63.6(h)(9).

(3) Approval of a major change to test methods under §63.7(e)(2)(ii) and (f). A “major change to test method” is defined in 40 CFR 63.90.

(4) Approval of major change to monitoring under 40 CFR 63.8(f). A “major change to monitoring” is defined in 40 CFR 63.90.

(5) Approval of a major change to recordkeeping/reporting under 40 CFR 63.10(f). A “major change to recordkeeping/reporting” is defined in 40 CFR 63.90.

(6) Approval of a program for the removal of mercury switches under §63.10685(b)(2).

Back to Top

§63.10692 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2, and in this section as follows:

Argon-oxygen decarburization (AOD) vessel means any closed-bottom, refractory-lined converter vessel with submerged tuyeres through which gaseous mixtures containing argon and oxygen or nitrogen may be blown into molten steel for further refining.

Capture system means the equipment (including ducts, hoods, fans, dampers, etc.) used to capture or transport emissions generated by an electric arc furnace or argon-oxygen decarburization vessel to the air pollution control device.

Chlorinated plastics means solid polymeric materials that contain chlorine in the polymer chain, such as polyvinyl chloride (PVC) and PVC copolymers.

Control device means the air pollution control equipment used to remove particulate matter from the effluent gas stream generated by an electric arc furnace or argon-oxygen decarburization vessel.

Deviation means any instance where an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emissions limitation or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emissions limitation in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Electric arc furnace (EAF) means a furnace that produces molten steel and heats the charge materials with electric arcs from carbon electrodes. An electric arc furnace consists of the furnace shell, roof, and the transformer.

Electric arc furnace (EAF) steelmaking facility means a steel plant that produces carbon, alloy, or specialty steels using an EAF. This definition excludes EAF steelmaking facilities at steel foundries and EAF facilities used to produce nonferrous metals.

Free organic liquids means material that fails the paint filter test by EPA Method 9095B, (revision 2, dated November 1994) (incorporated by reference—see §63.14) after accounting for water using a moisture determination test by ASTM Method D2216-05 (incorporated by reference—see §63.14). If, after conducting a moisture determination test, if any portion of the material passes through and drops from the filter within the 5-minute test period, the material contains *free organic liquids.*

Leaded steel means steel that must meet a minimum specification for lead content (typically 0.25 percent or more) and for which lead is a necessary alloy for that grade of steel.

Mercury switch means each mercury-containing capsule or switch assembly that is part of a convenience light switch mechanism installed in a vehicle.

Motor vehicle means an automotive vehicle not operated on rails and usually operated with rubber tires for use on highways.

Motor vehicle scrap means vehicle or automobile bodies, including automobile body hulks, that have been processed through a shredder. *Motor vehicle scrap* does not include automobile manufacturing bundles, or miscellaneous vehicle parts, such as wheels, bumpers or other components that do not contain mercury switches.

Nonferrous metals means any pure metal other than iron or any metal alloy for which an element other than iron is its major constituent by percent in weight.

Scrap provider means the person (including a broker) who contracts directly with a steel mill to provide scrap that contains motor vehicle scrap. Scrap processors such as shredder operators or vehicle dismantlers that do not sell scrap directly to a steel mill are not *scrap providers.*

Specialty steel means low carbon and high alloy steel other than stainless steel that is processed in an argon-oxygen decarburization vessel.

Stainless steel means low carbon steel that contains at least 10.5 percent chromium.

Back to Top

Table 1 to Subpart YYYYY of Part 63—Applicability of General Provisions to Subpart YYYYY

As required in §63.10691(a), you must comply with the requirements of the NESHAP General Provisions (40 CFR part 63, subpart A) shown in the following table.

Citation	Subject	Applies to subpart YYYYY?	Explanation
§63.1(a)(1), (a)(2), (a)(3), (a)(4), (a)(6), (a)(10)-(a)(12), (b)(1), (b)(3), (c)(1), (c)(2), (c)(5), (e)	Applicability	Yes	
§63.1(a)(5), (a)(7)-(a)(9), (b)(2), (c)(3), (c)(4), (d)	Reserved	No	
§63.2	Definitions	Yes	
§63.3	Units and Abbreviations	Yes	

§63.4	Prohibited Activities and Circumvention	Yes	
§63.5	Preconstruction Review and Notification Requirements	Yes	
§63.6(a), (b)(1)-(b)(5), (b)(7), (c)(1), (c)(2), (c)(5), (e)(1), (e)(3)(i), (e)(3)(iii)-(e)(3)(ix), (f), (g), (h)(1), (h)(2), (h)(5)-(h)(9), (i), (j)	Compliance with Standards and Maintenance Requirements	Yes	
§63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv)	Reserved	No	
§63.7	Applicability and Performance Test Dates	Yes	
§63.8(a)(1), (a)(2), (b), (c), (d), (e), (f)(1)-(5), (g)	Monitoring Requirements	Yes	Requirements apply if a COMS or CEMS is used.
§63.8(a)(3)	[Reserved]	No	
§63.8(a)(4)	Additional Monitoring Requirements for Control Devices in §63.11	No	
§63.8(c)(4)	Continuous Monitoring System Requirements	Yes	Requirements apply if a COMS or CEMS is used.
§63.8(f)(6)	RATA Alternative	Yes	Requirements apply if a CEMS is used.
§63.9(a), (b)(1), (b)(2), (b)(5), (c), (d), (f), (g), (h)(1)-(h)(3), (h)(5), (h)(6), (i), (j)	Notification Requirements	Yes	
§63.9(b)(3), (h)(4)	Reserved	No	
§63.9(b)(4)		No	
§63.10(a), (b)(1), (b)(2)(i)-(v), (b)(2)(xiv), (b)(3), (c)(1), (c)(5)-(c)(8), (c)(10)-(c)(15), (d), (e)(1)-(e)(4), (f)	Recordkeeping and Reporting Requirements	Yes	Additional records for CMS in §63.10(c) (1)-(6), (9)-(15), and reports in §63.10(d)(1)-(2) apply if a COMS or CEMS is used.
§63.10(b)(2)(xiii)	CMS Records for RATA Alternative	Yes	Requirements apply if a CEMS is used.
§63.10(c)(2)-(c)(4), (c)(9)	Reserved	No	

§63.11	Control Device Requirements	No	
§63.12	State Authority and Delegations	Yes	
§§63.13-63.16	Addresses, Incorporations by Reference, Availability of Information, Performance Track Provisions	Yes	

Back to Top

CERTIFICATE OF SERVICE

I, Cynthia Hook, hereby certify that a copy of this permit has been mailed by first class mail to Big River Steel LLC, 1425 Ohlendorf Road, Osceola, AR, 72370, on this 31st day of August, 2015.

Cynthia Hook, ASIII, Air Division