

ADEQ DRAFT MINOR SOURCE AIR PERMIT

Permit No. : 0309-AR-10

IS ISSUED TO:

Dixie Consumer Products, LLC
4411 Midland Boulevard
Fort Smith, AR 72904
Sebastian County
AFIN: 66-00026

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

Signed:

Stuart Spencer
Associate Director, Office of Air Quality

Date

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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
No.	Number
NO _x	Nitrogen Oxide
PM	Particulate Matter
PM ₁₀	Particulate Matter Smaller Than Ten Microns
SO ₂	Sulfur Dioxide
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

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Section I: FACILITY INFORMATION

PERMITTEE: Dixie Consumer Products, LLC

AFIN: 66-00026

PERMIT NUMBER: 0309-AR-10

FACILITY ADDRESS: 4411 Midland Boulevard
Fort Smith, AR 72904

MAILING ADDRESS: 4411 Midland Boulevard
Fort Smith, AR 72904

COUNTY: Sebastian County

CONTACT NAME: Mark Stafford

CONTACT POSITION: Plant Engineer

TELEPHONE NUMBER: (479) 782-4001

REVIEWING ENGINEER: John Mazurkiewicz

UTM North South (Y): Zone 15: 3920700.85 m

UTM East West (X): Zone 15: 374982.43 m

Section II: INTRODUCTION

Summary of Permit Activity

Dixie Consumer Products, LLC manufactures paper plates and cups at its facility located at 4411 Midland Blvd., Fort Smith, Sebastian County, Arkansas 72904. This permit revision is a *De Minimis* Modification to Permit #0309AR-9 allowing the facility to:

1. Install additional Plate Forming Presses and associated packaging/ infrastructure equipment, increasing plate production capacity, therefore increasing annual generation of paper trip scrap from 34,000 tons/yr to 57,000 tons/yr;
2. Install a new air filter downstream of Cyclones #6 and #8 (SN-30 and 32) to be designated SN-51;
3. Install three dust collection bags to handle dust collected from the new air filter, and include emissions resulting from dust transfer as SN-52;
4. Remove the Kidder Press (SN-14);
5. Reclassify the existing seven cooling towers (SN-43 through 49) as A-13 Insignificant Activities, and add a new cooling tower;

Emission changes associated with this De Minimis Modification include a decrease in permitted emissions by 10.7 tpy PM, 10.7 tpy PM₁₀, 0.1 tpy SO₂, 0.5 tpy VOC, 0.2 tpy CO, 0.4 tpy NO_x.

Process Description

Raw paper board arrives at the facility on large rolls of various widths and base weights. The plate stock is clay coated and the cup stock is either coated with polyethylene or uncoated. Before processing, some of the rolls must be cut to the desired width on the slitter. Each roll of paper is printed at one of the printing presses: 6GPP Rotogravure Press (SN-01 through SN-08), Kidder Press (SN-14), Ten Color Press (SN-40), and Eight Color Flexographic Printer (SN-50). After printing, the rolls of paper are stored in a warehouse area until scheduled to be formed into cups and plates. A small quantity of VOC emissions may occur during the storage period; however, all emissions are accounted for at the printing stations. Printed paper is taken to either the plate or cup forming department. At the forming press, the roll is unwound on one end. A forming die cuts out the printed area, called blanks. The blanks are then formed into cups and plates. Ten (10) cyclones located on the roof of the facility are used to channel excess paper (trim) from the forming presses and scrap paper from the floor sweep systems to holding bins or directly into a baler for recycling. Emissions from paper trim handling are permitted under SN-25 through SN-29, SN-31, SN-33, SN-41, & 51. Emissions from SN-51 are controlled by two cyclones and an air filter. Collected dust from the air filter is routed to three dust collection bags by a 900 cfm fan, and the emissions resulting from this material transfer are permitted as SN-52. Plates and polyethylene coated cups are packaged immediately. Finished goods are stored in a warehouse. A non-HAP solvent is used throughout the facility for cleanup purposes (SN-38).

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
40 CFR Part 63.820, Subpart KK - <i>National Emission Standards for the Printing and Publishing Industry</i> (Appendix A)
40 CFR §63.6580, Subpart ZZZZ – <i>Stationary Reciprocating Internal Combustion Engines</i> , as amended January 30, 2013, for SN-42 (Appendix B) ¹

¹ Existing Emergency Generator SN-42 is not subject to NSPS Subpart JJJJ; it was ordered before June 12, 2006.

GHG Status

This facility is classified as a minor source of greenhouse gas emissions because it has the potential to emit less than 100,000 tpy CO₂e or less than 100 tpy mass basis combined greenhouse gases.

Total Allowable Emissions

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

TOTAL ALLOWABLE EMISSIONS		
Pollutant	Emission Rates	
	lb/hr	tpy
PM	43.5	88.1
PM ₁₀	43.5	88.1
SO ₂	1.0	0.9
VOC	440.7	81.1
CO	3.2	11.4
NO _x	3.8	14.6
Ammonia	137.64	66.4

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Section III: PERMIT HISTORY

American Can Company received its first air permit, 309-A, in May 1976. American Can Company previously owned the facility which had been constructed in the 1950s. The air permit allowed the installation of a rotogravure press at the existing facility in Fort Smith. No emission limits were established from the permitting process.

Air permit 309-AR-1 was issued to James River on September 23, 1983. Total allowable emission limits were established for VOC emissions from SN-01, SN-02, and SN-03 (dryers).

Air permit 309-AR-2 was issued to James River on July 8, 1992. The permit modification included the retirement of the 5GPP Corona Treaters (SN-09, 13, 16, 18, and 21) and the installation of an electric heated wash tank. The permit also addressed all current equipment and operations at the facility.

The permit specified that the facility was subject to regulation under the Arkansas Air Pollution Control Code and the Arkansas Plan of Implementation for Air Pollution Control. In addition, the permit specified that the facility was not subject to the New Source Performance Standards (NSPS) contained in 40 CFR Part 60 Subpart QQ--Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing, since the rotogravure presses were installed prior to October 28, 1980.

James River was also identified as a major stationary source for the purpose of Prevention of Significant Deterioration (PSD) determination. A VOC baseline of 697.8 tons per year was established.

Air permit 309-AOP-R0 was the first operating air permit issued to Fort James Operating Company under Regulation 26. The facility implemented a water-based coating and application which reduced VOC and HAP emissions to below major stationary source levels in regards to Prevention of Significant Deterioration regulations, and below major HAP status under Title V and NESHAP standards. This permitting action also authorized an additional multicolor press (SN-39). Total emissions from this source were permitted at 15.7 tons per year of VOC with 0.2 tons per year of HAPs. This permitting action also recorded the facility's name change from James River Paper Company, Inc. to Fort James Operating Company.

Air permit 309-AR-3 was issued on February 22, 2002. This permitting action was necessary to remove the facility from Title V major source status, to establish synthetic minor status by limiting the facility to 80.0 tons per year (tpy) VOC (excluding natural gas combustion), to establish annual limits of 1.5 tpy glycol ethers and 0.5 tpy ethyl benzene, to construct and operate an additional color printing press and associated drying equipment (SN-40), and to remove the three boilers (SN-34, SN-35, and SN-36) from service. This facility was permitted to emit 57.7 tpy PM/PM₁₀, 1.5 tpy SO₂, 81.6 tpy VOC, 7.6 tpy CO, 10.1 tpy NO_x, 62.8 tpy ammonia, 0.5 tpy ethyl benzene, and 1.5 tpy glycol ethers. This corresponded to overall increases of 4.7 tpy CO, 39.2 tpy ammonia, and 0.4 tpy ethyl benzene.

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Air permit 309-AR-4 was issued on December 19, 2002. This permitting action was necessary for the installation of two (2) vent hoods on the SN-40 press and to increase the permitted heat input capacity for the SN-40 dryers to 10.4 MMBTU/hr. The permitted emission rate increases for this de minimis modification was 0.1 tons per year (tpy) PM/PM₁₀, 0.1 tpy VOC, 0.8 tpy CO, and 1.0 tpy NO_x.

Air permit 309-AR-5 was issued on May 4, 2004. This permitting action was necessary to relocate the Scrap Paper Cyclone at SN-33 from Building 4 to the Baler Room; replace the Scrap Paper Cyclone at SN-25 with a new one rated at 53,000 cfm; increase the annual paper trim throughput for SN-25 through SN-33 to 25,000 tons; update the permitted hourly emission rate of SN-25 through SN-33 based on the maximum amount of trim produced per hour; change the annual ammonia emissions compliance demonstration from the 0.2 lb/ream ink usage limit to a plantwide ammonia emissions bubble with associated recordkeeping; and use a reformulation of the water-based coating at SN-05 through SN-08 and SN-40. The annual paper trim throughput increase for SN-25 through SN-33 resulted in a permitted increase of 14.0 tpy PM/PM₁₀.

Permit #0309-AR-6 was issued to Fort James Operating Company (future Dixie Consumer Products, LLC) on July 10, 2007. This permitting action was necessary to update the permitted ammonia emission rate limits from SN-05 through SN-08 and SN-40 based on testing of the water-based coating. The total permitted annual ammonia emission rate increased by 3.6 tpy. This permitting action modified the permit based on emissions of 76% of the applied ammonia.

- Permit #0309-AR-6 was amended on October 18, 2007. This permitting action was necessary to remove SN-37; update the Process Description; and the example format for the ethyl benzene emissions recordkeeping (previously Appendix B) was removed.

Permit #0309-AR-7 was issued to Dixie Consumer Products, LLC on November 12, 2008. This permitting action is necessary to:

1. Limit the ammonia content of the inks used in SN-14 to a not to exceed 3.5 weight percent ammonia or 7.0 weight percent ammonium hydroxide;
2. Remove the following permitted sources: Webtron Press #202 (SN-15), Webtron Press #209 (SN-17), Webtron Press #211 (SN-20), Webtron Press #210 (SN-22) and Webtron Press #208 (SN-23 and SN-24); and
3. Add a 550 gallon aboveground diesel storage tank to the Insignificant Activities list.

Potential annual emission changes are: -0.6 tpy PM/PM₁₀, -0.6 tpy SO₂, -0.6 tpy VOC, -0.6 tpy CO, and -0.6 tpy NO_x.

Permit #0309-AR-8 was issued to Dixie Consumer Products, LLC on February 7, 2012. This permit modification was necessary to:

1. Install an additional scrap paper cyclone (SN-41);
2. Increase throughput from 25,000 to 30,000 tons of waste paper trim at SN-25 through SN-33 and SN-41 per rolling 12 month period; and
3. Remove Webtron Press #212 – Dryer (SN-19) from service.

Permitted emission increases associated with these changes are: 13.9 tons per year (tpy) PM/PM₁₀, -0.1 tpy SO₂, -0.1 tpy VOC, -0.1 tpy CO and -0.1 tpy NO_x.

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Permit No. 0309-AR-9 was issued to Dixie Consumer Products, LLC on August 6, 2014. The permit modification was necessary to:

1. Change existing emergency generator from an insignificant activity to a source (SN-42) and incorporate applicable provisions of 40 CFR 63 Subpart ZZZZ;
2. Permit six (6) existing cooling towers as sources (SN-43 through SN-48);
3. Install new cooling tower (SN-49);
4. Install 8-color flexographic press and associated small natural gas-fired ovens (SN-50);
5. Increase annual waste paper trim throughput to 34,000 tpy and reduce pounds per hour to 15,000 lb/hr trim (SN-25 through SN-33 and SN-41);
6. Decrease maximum ammonia content from 2.0% to 1.4% by weight for ink and extenders; and
7. Ethylene glycol mono butyl ether (EGBE) has been delisted as a HAP and removed from the permit.

The total permitted annual emission changes associated with this revision are: 13.7 tons per year (tpy) PM/PM₁₀, 0.2 tpy SO₂, 0.6 tpy VOC, 3.9 tpy CO, 4.6 tpy NO_x, and -1.5 tpy EGBE.

Section IV: EMISSION UNIT INFORMATION

Specific Conditions

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

SN	Description	Pollutant	lb/hr	tpy
01-08, 14, 38, 40 & 50	Facility-wide Annual VOC Emissions from Inks and Coatings ** (Excluding Natural Gas Combustion)	VOC	---	80.0**
01	6GPP Dryer/Ink Application	PM ₁₀	0.1	0.1
		SO ₂	0.1	0.1
		VOC	13.9	0.1*
		CO	0.2	0.6
		NO _x	0.2	0.9
02	6GPP Dryer/Ink Application	PM ₁₀	0.1	0.1
		SO ₂	0.1	0.1
		VOC	13.9	0.1*
		CO	0.2	0.6
		NO _x	0.2	0.9
03	6GPP Dryer/Ink Application	PM ₁₀	0.1	0.1
		SO ₂	0.1	0.1
		VOC	13.9	0.1*
		CO	0.2	0.6
		NO _x	0.2	0.9
04	6GPP Dryer/Ink Application	PM ₁₀	0.1	0.1
		SO ₂	0.1	0.1
		VOC	13.9	0.1*
		CO	0.2	0.6
		NO _x	0.2	0.9
05	6GPP Dryer/Precoat Application	PM ₁₀	0.1	0.1
		SO ₂	0.1	0.1
		VOC	1.1	0.1*
		CO	0.2	0.6
		NO _x	0.2	0.9
06	6GPP Fugitive Emissions	VOC	0.3	**
07	6GPP Dryer/Top Coat Application	PM ₁₀	0.1	0.1
		SO ₂	0.1	0.1
		VOC	1.1	0.1*
		CO	0.2	0.6
		NO _x	0.2	0.9
08	6GPP Fugitive Emissions	VOC	0.3	**

SN	Description	Pollutant	lb/hr	tpy
25 - 29, 31, 33, & 41	Paper Trim Handling (Eight Scrap Paper Cyclones)	PM ₁₀	42.0***	84.0***
38	Facility-wide Non-stack Solvent Emissions	VOC	5.0	**
40	10-Color Press and Dryer	PM ₁₀ SO ₂ VOC CO NO _x	0.1 0.1 143.9 0.9 1.1	0.4 0.1 0.3* 3.9 4.6
42	Generac, Model 97390 Emergency Generator (4SLB, Natural Gas Fired RICE, 24 HP, model year 1997, Serial No. 2035961, 500 hrs/yr limit)	PM ₁₀ SO ₂ VOC CO NO _x	0.1 0.1 0.1 0.1 0.3	0.1 0.1 0.1* 0.1 0.1
50	8-Color Flexographic Press and Dryers (natural gas dryers total 10.87 MMBtu/hr)	PM ₁₀ SO ₂ VOC CO NO _x	0.1 0.1 211.5 0.9 1.1	0.4 0.1 0.1* 3.8 4.5
51	Paper Trim Handling (Two Scrap Paper Cyclones to One Air Filter)	PM ₁₀	42.0	2.2
52	Dust Collection Bags	PM ₁₀	0.1	0.4
09-13, 14-24, 34-37 & 39		Removed from Service		
43-49		Moved to Insignificant Activities		

* Tons per year natural gas combustion emissions only. These sources are additional to the 80.0 tpy VOC facility-wide limit for inks.

** Facility-wide limit of 80.0 tpy of VOC emissions, excluding natural gas combustion emissions.

*** Combined (bubbled) particulate emissions from SN-26 through SN-29, SN-31, SN-33, and SN-41.

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

SN	Description	Pollutant	lb/hr	tpy
---	Facility-wide Annual Ammonia Emissions from Inks and Coatings *	Ammonia		66.4*
01	6GPP Dryer/Ink Application	PM Ammonia	0.1 4.03	0.1 *
02	6GPP Dryer/Ink Application	PM Ammonia	0.1 4.03	0.1 *
03	6GPP Dryer/Ink Application	PM Ammonia	0.1 4.03	0.1 *
04	6GPP Dryer/Ink Application	PM Ammonia	0.1 4.03	0.1 *

SN	Description	Pollutant	lb/hr	tpy
05	6GPP Dryer/Precoat Application	PM Ammonia	0.1 1.5	0.1 *
06	6GPP Fugitive Emissions	Ammonia	0.4	*
07	6GPP Dryer/Top Coat Application	PM Ammonia	0.1 1.5	0.1 *
08	6GPP Fugitive Emissions	Ammonia	0.4	*
25 - 29, 31, 33, & 41	Paper Trim Handling (Eight Scrap Paper Cyclones)	PM	42.0***	84.0***
40	10-Color Press and Dryer	PM Ammonia	0.1 45.03	0.4 *
42	Generac, Model 97390 Emergency Generator (4SLB, Natural Gas Fired RICE, 24 HP, model year 1997, Serial No. 2035961)	PM	0.1	0.1
50	8-Color Flexographic Press and Dryers (natural gas dryers total 10.81 MMBtu/hr)	PM Ammonia	0.1 70.20	0.4 *
51	Paper Trim Handling (Two Scrap Paper Cyclones to One Air Filter)	PM	42.0	2.2
52	Dust Collection Bags	PM	0.1	0.4
09-13, 14-24, 34-37 & 39		Removed from Service		
43-49		Moved to Insignificant Activities		

* Annual Ammonia emissions are bubbled facility-wide and not to exceed 66.4 tpy.

*** Combined (bubbled) particulate emissions from SN-26 through SN-29, SN-31, SN-33, and SN-41.

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

SN	Limit	Regulatory Citation
01, 02, 03, 04, 05, 06, 07, 40, 50	10%	§18.501 and A.C.A. (natural gas fuel only)
25, 26, 27, 28, 29, 31, 33, 41, 51	10%	§18.501 and A.C.A.
42	5%	§18.501 and A.C.A. (natural gas fuel only)

4. The permittee shall not cause or permit the emission of air contaminants, including odors or water vapor and including an air contaminant whose emission is not otherwise prohibited by Regulation #18, if the emission of the air contaminant constitutes air pollution within the meaning of A.C.A. §8-4-303. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

5. The permittee shall not conduct operations in such a manner as to unnecessarily cause air contaminants and other pollutants to become airborne. [Regulation 18 §18.901 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
6. The permittee shall not exceed 80 hours per consecutive twelve months in which the air filter (SN-51) is bypassed for routine maintenance, including changing filters, in order to demonstrate compliance with the annual emission rate limits. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
7. The permittee shall maintain monthly records to demonstrate compliance with the condition above. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The twelve month rolling totals and each individual month's data shall be maintained on-site, made available to Department personnel upon request, and submitted in accordance with General Provision #7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

Plantwide VOC Emissions

8. The permittee shall not use a mixed final ink product (combination of a base and extender, as applied), which exceeds a maximum VOC content of 4.8% by weight. [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
9. The permittee shall not use a coating which exceeds a maximum VOC content of 0.81 % by weight. [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
10. The permittee shall not process more than 1,000 gallons of solvent and 11,000 pounds of ink solvent at SN-38 per rolling 12 month period. The solvent density shall not exceed 7.1 pounds per gallon. [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
11. The permittee shall not emit more than 80.0 tons of VOCs per rolling 12 month period, excluding natural gas combustion. The permittee shall maintain monthly usage and emission records for inks, extenders, coatings, and solvents for SN-01 through SN-08, SN-14, SN-38, SN-40, and SN-50, which demonstrate compliance with this specific condition and Specific Conditions #6 through #8. These records shall include the following:
 - a. The name and type of each VOC-containing material used;
 - b. The amount (pounds) of each VOC-containing material used during each month;
 - c. The VOC content (% weight) of each VOC-containing material used, as documented by Material Safety Data Sheets (MSDS) or equivalent documentation;
 - d. The weight (tons) of the total VOCs emitted during each individual month; and

- e. The twelve month rolling total of the VOC emissions from the facility, excluding natural gas emissions, in tons per year (tpy).

The permittee shall update the records by the fifteenth day of the month following the month to which the records pertain. The permittee shall keep the records onsite, and make the records available to Department personnel upon request. Legible MSDS documents must be retained for a minimum of 24 months beyond the date of the materials' last use. [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Plantwide Ammonia Emissions

- 12. The permittee shall not use a mixed final ink product (combination of a base and extender, as applied), which exceeds a maximum ammonia content of 1.4% by weight facility-wide. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- 13. The permittee shall not use a coating which exceeds a maximum ammonia content of 1.5% by weight facility-wide. The product retains 0.24% of the ammonia coating content, based on facility tests noted in Permit #0309-AR-6. The permittee shall not use any coatings as applied which emits more than maximum ammonia emission of 1.14% by weight. Any coatings used shall be HAP-free. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- 14. Any solvents used at the facility (SN-38) shall be ammonia and HAP-free. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- 15. The permittee shall not emit more than 66.4 tons of Ammonia per rolling 12 month period. The permittee shall maintain monthly usage and emission records for inks, extenders, coatings, and solvents for SN-01 through SN-08, SN-14, SN-40, and SN-50, which demonstrate compliance with this specific condition and Specific Conditions #10 through #12. These records shall include the following:
 - f. The name and type of each Ammonia-containing material used;
 - g. The amount (pounds) of each Ammonia-containing material used during each month;
 - h. The Ammonia content (% by weight) of each Ammonia-containing material used, as documented by MSDS or equivalent documentation;
 - i. The weight (tons) of the total Ammonia emitted during each individual month; and
 - j. The twelve month rolling total of the Ammonia emissions from the facility, excluding natural gas, in tpy.

The permittee shall update the records by the fifteenth day of the month following the month to which the records pertain. The permittee shall keep the records onsite, and make the records available to Department personnel upon request. Legible MSDS documents must be retained for a minimum of 24 months beyond the date of the

materials' last use. [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Paper Waste Trim and Natural Gas

16. The permittee shall not exceed a throughput of 57,000 tons of paper waste trim at the facility (SN-25 through SN-33, SN-41, & 51) per rolling 12 month period. [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
17. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition #14. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The twelve month rolling totals and each individual month's data shall be maintained onsite and made available to Department personnel upon request. [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
18. The following sources are permitted to use only pipeline quality natural gas: SN-01 through SN-07, SN-14, SN-40, SN-42, and SN-50. [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

NESHAP Subpart KK Conditions for Facility

19. The facility shall meet all applicable requirements of 40 CFR Part 63, Subpart KK *National Emission Standards for the Printing and Publishing Industry* (Appendix A). [Regulation 19 §19.304 and 40 CFR §63.820]
20. The permittee shall maintain records of all required measurements and calculations needed to demonstrate compliance with the following criteria, including the mass of all HAP containing materials (if any) used and the mass fraction of HAP present in each HAP containing material used, on a monthly basis:
 - a. Use less than 9.1 Mg (10 tons) per each rolling 12-month period of each HAP at the facility, including materials used for source categories or purposes other than printing and publishing and
 - b. Use less than 22.7 Mg (25 tons) per each rolling 12-month period of any combination of HAPs at the facility, including materials used for source categories or purposes other than printing and publishing.[Regulation 19 §19.304 and 40 CFR 63.829(d)]
21. The permittee shall submit to the Department an initial notification as required in 40 CFR §63.9(b). [Regulation 19 §19.304 and 40 CFR 63.830(b)(1)]
 - a. Initial notifications for existing sources shall be submitted no later than one year before the compliance date specified in §63.826(a).

- b. Initial notifications for new and reconstructed sources shall be submitted as required by §63.9(b).
- c. A Title V or part 70 permit application may be used in lieu of the initial notification required under §63.9(b), provided the same information is contained in the permit application as required by §63.9(b), and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA.
- d. Permit applications shall be submitted by the same due dates as those specified for the initial notifications.

NESHAP Subpart ZZZZ Conditions - Existing Emergency SI RICE, Area Source

- 22. The permittee shall not operate the emergency generator SN-42 in excess of 500 total hours (emergency and non-emergency) per rolling 12 month period in order to demonstrate compliance with annual emission rates in Specific Conditions #1 and #2. Emergency operation in excess of these hours may be allowable but shall be reported and will be evaluated in accordance with Arkansas Regulation §19.602 and other applicable regulations. SN-42 must record operating hours on a non-resettable hour meter. [Regulation 19 §19.304, §19.705, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- 23. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition #20. All hours of operation (emergency and non-emergency) shall be included in these records. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The twelve month rolling totals and each individual month's data shall be maintained onsite and made available to Department personnel upon request. [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- 24. 40 CFR Part 63, Subpart ZZZZ (Appendix B) applies to each 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. For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if construction or reconstruction of the stationary RICE commenced before June 12, 2006, in accordance with §63.6590(a)(1)(iii). SN-42 meets this definition of existing. Furthermore, a change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE, in accordance with §63.6590(a)(1)(iv). [Regulation 19 §19.304 and §63.6590(a)(1)(iii and iv)]
- 23. The permittee has an existing stationary SI RICE located at an area source of HAP emissions and must comply with the applicable emission limitations no later than October 19, 2013. [Regulation 19 §19.304 and §63.6595(a)(1)]

24. If permittee owns or operates an existing stationary RICE (SN-42) located at an area source of HAP emissions, the permittee must comply with the requirements in Table 2d to Subpart ZZZZ of Part 63 and the operating limitations in Table 2b to Subpart ZZZZ of Part 63 that apply to you. This engine is not subject to emission limits or operating limits. [Regulation 19 §19.304, §63.6603(a), §63.6640, Table 2d, Item #5 (a-c), 40 CFR 63, Subpart ZZZZ]

Table 2d to Subpart ZZZZ of Part 63 - <i>Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions</i>		
For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
5. Emergency stationary SI RICE (SN-42)	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.	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 Sources have the option to utilize an oil analysis program as described in § 63.6625(j) in order to extend the specified oil change requirement in Table 2d of NESHAP Subpart ZZZZ.		

25. If the permittee owns or operates any of the following stationary RICE, the permittee 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 its 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: An existing emergency or black start stationary RICE located at an area source of HAP emissions. [Regulation 19 §19.304 and §63.6625(e)(3)]
26. If the permittee owns or operates an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at an area source of HAP emissions, the permittee must install a non-resettable hour meter if one is not already installed. [Regulation 19 §19.304 and §63.6625(f)]
27. Since the permittee operates existing stationary engine, the permittee 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 Subpart ZZZZ of Part 63 that apply. [Regulation 19 §19.304 and §63.6625(h)]

28. The permittee owns or operates a stationary SI engine that is subject to the work, operation or management practices in item 5 of Table 2d to Subpart ZZZZ of Part 63, the permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Table 2d to Subpart ZZZZ of Part 63. The oil analysis must be performed at the same frequency specified for changing the oil in item 5 of Table 2d to Subpart ZZZZ of Part 63. 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 permittee is not required to change the oil. If any of the limits are exceeded, the engine permittee 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 permittee must change the oil within 2 business days or before commencing operation, whichever is later. The permittee 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. [Regulation 19 §19.304 and §63.6625(j)]
29. The permittee must be in compliance with the emission limitations, operating limitations, and other requirements in Subpart ZZZZ of Part 63 that apply to the permittee at all times. There are no applicable operating or emission limits. At all times the permittee must operate and maintain 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 the permittee 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 Department 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 sources. [Regulation 19 §19.304 and §63.6605(a) and (b)]
30. The permittee must also report each instance in which the permittee does not meet the requirements in Table 8 to Subpart ZZZZ of Part 63 – *Applicability of General Provisions to Subpart ZZZZ*. [Regulation 19 §19.304 and §63.6640(e)]
31. Since the permittee has an existing emergency stationary RICE, the permittee must operate the emergency stationary RICE according to the requirements in §63.6640(f)(1)(i) through (iii). In order for the engine to be considered an emergency stationary RICE under Subpart ZZZZ of Part 63, 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 §63.6640(f)(1), (2), and (3) is

prohibited. If the permittee does not operate the engines according to the requirements in §63.6640(f)(1), (2), and (4), the engine will not be considered an emergency engine under Subpart ZZZZ of Part 63 and must meet all requirements for non-emergency engines. Operation limitations for SN-42 as follow: [Regulation 19 §19.304 and §63.6640(f)]

- a. There is no time limit on the use of emergency stationary RICE in emergency situations. [§63.6640(f)(1)]
- b. The permittee may operate its emergency stationary RICEs for any combination of the purposes specified in §63.6640(f)(2)(i) through (iii) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by §63.6640(f)(3) and (4) counts as part of the 100 hours per calendar year allowed by §63.6640(f)(2). [§63.6640(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 permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. [§63.6640(f)(2)(i)]
 - 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. [§63.6640(f)(2)(ii)]
 - 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. [§63.6640(f)(2)(iii)]
- c. 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 §63.6640(f)(2). Except as provided in §63.6640(f)(4)(i) and (ii), 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 to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [§63.6640(f)(4)]

32. Since the permittee must comply with the emission and operating limitations, the permittee must keep the records described in §63.6655(a), as follows: [Regulation 19 §19.304 and §63.6655(a)]
- a. A copy of each notification and report that the permittee submitted to comply with Subpart ZZZZ of Part 63, including all documentation supporting any initial Notification or Notification of Compliance Status that the permittee submitted, according to the requirements in §63.10(b)(2)(xiv).
 - b. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.
 - c. Records of all required maintenance performed on the air pollution control and monitoring equipment.
 - d. 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.
33. The permittee must keep records of the maintenance conducted on stationary RICE in order to demonstrate that the facility operated and maintained each stationary RICE and after-treatment control device (if any) according to its own maintenance plan if the permittee has any of the following stationary RICE: item #9 (a)(i and ii): Work or Management Practices. [Regulation 19 §19.304, §63.6655(d), and Table 6, item #9(a)(i) and (a)(ii)]
- a. Operating and maintaining the stationary RICE according to manufacturer's emission-related operation and maintenance instructions; or
 - b. Develop and follow its 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.
34. The permittee must keep the records required in Table 6 to Subpart ZZZZ of Part 63 – *Continuous Compliance with Emission Limitations, Operating Limitations, Work Practices, and Management Practices* to show continuous compliance with each emission and operating limitation that applies to the permittee. [Regulation 19 §19.304 and §63.6655(d)]
35. The permittee must keep records of the maintenance conducted on stationary RICEs in order to demonstrate that the permittee operated and maintained the stationary RICE and after-treatment control device (if any) according its own maintenance plan if the permittee owns or operates any of the following stationary RICES: An existing stationary emergency RICE. [Regulation 19 §19.304 and §63.6655(e)(2)]
36. The permittee must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the permittee operated and maintained the stationary RICE and after-treatment control device (if any) according to its own maintenance plan if the

permittee has an existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to Subpart ZZZZ of Part 63 – *Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions*. [Regulation 19 §19.304 and §63.6655(e)(3)]

37. If the permittee has any of the stationary RICE in §63.6655(f)(1) through (2) of Subpart ZZZZ of Part 63, the permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee 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 permittee must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. [Regulation 19 §19.304 and §63.6655(f)]
 - a. An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines. [§63.6655(f)(2)]
38. The permittee's records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1). As specified in §63.10(b)(1) and General Condition #5, the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The permittee must keep each record readily accessible in hard copy or electronic form for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [Regulation 19 §19.304 and §63.6660(a), (b), and (c)]

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Section V: INSIGNIFICANT ACTIVITIES

The Department deems the following types of activities or emissions as insignificant on the basis of size, emission rate, production rate, or activity in accordance with Group A of the Insignificant Activities list found in Regulation 18 and Regulation 19 Appendix A. Insignificant activity emission determinations rely upon the information submitted by the permittee in an application dated January 19, 2016.

Description	Category
Twenty-two small Natural Gas-Fired Burners (10,000 Btu/hr each)	A-1
One Diesel Fuel Storage Tank (550 gallon)	A-3
Welding and Cutting Torches that do not result in emission of HAP metals	A-7
Equipment used for surface coating, painting, dipping, or spraying operations that do not emit any VOC or HAP	A-9
Parts Washer (non-HAP cleaner) (<1.0 lb/hr)	A-13
Two (2) Cooling Towers (300 gpm)	A-13
Two (2) Cooling Towers (500 gpm)	A-13
Four (4) Cooling Towers (1600 gpm)	A-13

Section VI: GENERAL CONDITIONS

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

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

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5301 Northshore Drive
North Little Rock, AR 72118-5317

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

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

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

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15. This permit shall be available for inspection on the premises where the control apparatus is located. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
 16. This permit authorizes only those pollutant emitting activities addressed herein. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
 17. This permit supersedes and voids all previously issued air permits for this facility. [Reg. 18 and/or Reg. 19 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
 18. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [Ark. Code Ann. § 8-1-105(c)]
 19. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion in the following circumstances:
 - a. Such an extension does not violate a federal requirement;
 - b. The permittee demonstrates the need for the extension; and
 - c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.
- [Reg.18.314(A) and/or Reg.19.416(A), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]
20. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Department approval. Any such emissions shall be included in the facilities total emissions and reported as such. The Department may grant such a request, at its discretion under the following conditions:
 - a. Such a request does not violate a federal requirement;
 - b. Such a request is temporary in nature;
 - c. Such a request will not result in a condition of air pollution;
 - d. The request contains such information necessary for the Department to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
 - e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
 - f. The permittee maintains records of the dates and results of such temporary emissions/testing.

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[Reg.18.314(B) and/or Reg.19.416(B), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

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

[Reg.18.314(C) and/or Reg.19.416(C), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

Appendix A:

40 CFR Part 63, Subpart KK - *National Emission Standards for the Printing and Publishing Industry*

ELECTRONIC CODE OF FEDERAL REGULATIONS

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Title 40: Protection of Environment

[PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES \(CONTINUED\)](#)

Subpart KK—National Emission Standards for the Printing and Publishing Industry

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SOURCE: 61 FR 27140, May 30, 1996, unless otherwise noted.

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§63.820 Applicability.

(a) The provisions of this subpart apply to:

(1) Each new and existing facility that is a major source of hazardous air pollutants (HAP), as defined in 40 CFR 63.2, at which publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses are operated, and

(2) Each new and existing facility at which publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses are operated for which the owner or operator chooses to commit to and meets the criteria of paragraphs (a)(2)(i) and (ii) of this section for purposes of establishing the facility to be an area source of HAP with respect to this subpart. A facility which establishes area source status through some other mechanism, as described in paragraph (a)(7) of this section, is not subject to the provisions of this subpart.

(i) Use less than 9.1 Mg (10 tons) per each rolling 12-month period of each HAP at the facility, including materials used for source categories or purposes other than printing and publishing, and

(ii) Use less than 22.7 Mg (25 tons) per each rolling 12-month period of any combination of HAP at the facility, including materials used for source categories or purposes other than printing and publishing.

(3) Each facility for which the owner or operator chooses to commit to and meets the criteria stated in paragraph (a)(2) of this section shall be considered an area source, and is subject only to the provisions of §§63.829(d) and 63.830(b)(1) of this subpart.

(4) Each facility for which the owner or operator commits to the conditions in paragraph (a)(2) of this section may exclude material used in routine janitorial or facility grounds maintenance, personal uses by employees or other persons, the use of products for the purpose of maintaining electric, propane, gasoline and diesel powered motor vehicles operated by the facility, and the use of HAP contained in intake water (used for processing or noncontact cooling) or intake air (used either as compressed air or for combustion).

(5) Each facility for which the owner or operator commits to the conditions in paragraph (a)(2) of this section to become an area source, but subsequently exceeds either of the thresholds in paragraph (a)(2) of this section for any rolling 12-month period (without first obtaining and complying with other limits that keep its potential to emit HAP below major source levels), shall be considered in violation of its commitment for that 12-month period and shall be considered a major source of HAP beginning the first month after the end of the 12-month period in which either of the HAP-use thresholds was exceeded. As a major source of HAP, each such facility would be subject to the provisions of this subpart as noted in paragraph (a)(1) of this section and would no longer be eligible to use the provisions of paragraph (a)(2) of this section, even if in subsequent 12-month periods the facility uses less HAP than the thresholds in paragraph (a)(2) of this section.

(6) An owner or operator of an affected source subject to paragraph (a)(2) of this section who chooses to no longer be subject to paragraph (a)(2) of this section shall notify the Administrator of such change. If, by no longer being subject to paragraph (a)(2) of this section, the facility at which the affected source is located becomes a major source:

(i) The owner or operator of an existing source must continue to comply with the HAP usage provisions of paragraph (a)(2) of this section until the source is in compliance with all relevant requirements for existing affected sources under this subpart;

(ii) The owner or operator of a new source must continue to comply with the HAP usage provisions of paragraph (a)(2) of this section until the source is in compliance with all relevant requirements for new affected sources under this subpart.

(7) Nothing in this paragraph is intended to preclude a facility from establishing area source status by limiting its potential to emit through other appropriate mechanisms that may be available through the permitting authority.

(b) This subpart does not apply to research or laboratory equipment.

(c) In response to an action to enforce the standards set forth in this subpart, an owner or operator may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by a malfunction, as defined in §63.2. Appropriate penalties may be assessed, however, if the owner or operator fails to meet the burden of proving all the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(1) To establish the affirmative defense in any action to enforce such a limit, the owners or operators of a facility must timely meet the notification requirements of paragraph (c)(2) of this section, and must prove by a preponderance of evidence that:

(i) The excess emissions were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, or a process to operate in a normal or usual manner; and could not have been prevented through careful planning, proper design or better operation and maintenance practices; and did not stem from any activity or event that could have been foreseen and avoided, or planned for; and were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

(ii) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs;

(iii) The frequency, amount, and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;

(iv) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(v) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment, and human health;

(vi) All emissions monitoring and control systems were kept in operation, if at all possible, consistent with safety and good air pollution control practices;

(vii) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs;

(viii) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions; and

(ix) The owner or operator has prepared a written root cause analysis, the purpose of which is to determine, correct and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using the best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(2) *Notification.* The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in this subpart to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (c)(1) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request

for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

[61 FR 27140, May 30, 1996, as amended at 71 FR 29799, May 24, 2006; 76 FR 22597, Apr. 21, 2011]

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§63.821 Designation of affected sources.

(a) The affected sources subject to this subpart are:

(1) All of the publication rotogravure presses and all related equipment, including proof presses, cylinder and parts cleaners, ink and solvent mixing and storage equipment, and solvent recovery equipment at a facility.

(2) All of the product and packaging rotogravure or wide-web flexographic printing presses at a facility plus any other equipment at that facility which the owner or operator chooses to include in accordance with paragraphs (a)(3) or (a)(4) of this section, except

(i) Proof presses, unless the owner or operator chooses to include proof presses in the affected source in accordance with paragraph (a)(5) of this section.

(ii) Any product and packaging rotogravure or wide-web flexographic press which is used primarily for coating, laminating, or other operations which the owner or operator chooses to exclude, provided that

(A) the sum of the total mass of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials applied by the press using product and packaging rotogravure print stations and the total mass of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials applied by the press using wide-web flexographic print stations in each month never exceeds 5 percent of the total mass of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials applied by the press in that month, including all inboard and outboard stations; and

(B) The owner or operator maintains records as required in §63.829(f).

(3) The owner or operator of an affected source, as defined in paragraph (a)(2) of this section, may elect to include in that affected source stand-alone equipment subject to the following provisions:

(i) Stand-alone equipment meeting any of the criteria specified in this subparagraph is eligible for inclusion:

(A) The stand-alone equipment and one or more product and packaging rotogravure or wide-web flexographic presses are used to apply solids-containing materials to the same web or substrate; or

(B) The stand-alone equipment and one or more product and packaging rotogravure or wide-web flexographic presses apply a common solids-containing material; or

(C) A common control device is used to control organic HAP emissions from the stand-alone equipment and from one or more product and packaging rotogravure or wide-web flexographic printing presses;

(ii) All eligible stand-alone equipment located at the facility is included in the affected source; and

(iii) No product and packaging rotogravure or wide-web flexographic presses are excluded from the affected source under the provisions of paragraph (a)(2)(ii) of this section.

(4) The owner or operator of an affected source, as defined in paragraph (a)(2) of this section, may elect to include in that affected source narrow-web flexographic presses subject to the following provisions:

(i) Each narrow-web flexographic press meeting any of the criteria specified in this subparagraph is eligible for inclusion:

(A) The narrow-web flexographic press and one or more product and packaging rotogravure or wide-web flexographic presses are used to apply solids containing material to the same web or substrate; or

(B) The narrow-web flexographic press and one or more product and packaging rotogravure or wide-web flexographic presses apply a common solids-containing material; or

(C) A common control device is used to control organic HAP emissions from the narrow-web flexographic press and from one or more product and packaging rotogravure or wide-web flexographic presses; and

(ii) All eligible narrow-web flexographic presses located at the facility are included in the affected source.

(5) The owner or operator of an affected source, as defined in paragraph (a)(2) of this section, may elect to include in that affected source rotogravure proof presses or flexographic proof presses subject to the following provisions:

(i) Each proof press meeting any of the criteria specified in this subparagraph is eligible for inclusion.

(A) The proof press and one or more product and packaging rotogravure or wide-web flexographic presses apply a common solids-containing material; or

(B) A common control device is used to control organic HAP emissions from the proof press and from one or more product and packaging rotogravure or wide-web flexographic presses; and

(ii) All eligible proof presses located at the facility are included in the affected source.

(6) Affiliated operations such as mixing or dissolving of ink or coating ingredients prior to application; ink or coating mixing for viscosity adjustment, color tint or additive blending, or pH adjustment; cleaning of ink or coating lines and line parts; handling and storage of inks, coatings, and solvents; and conveyance and treatment of wastewater are part of the printing and publishing industry source category, but are not part of the product and packaging rotogravure or wide-web flexographic printing affected source.

(7) Other presses are part of the printing and publishing industry source category, but are not part of the publication rotogravure affected source or the product and packaging rotogravure or wide-web flexographic printing affected source and are, therefore, exempt from the requirements of this subpart except as provided in paragraph (a)(3) of this section.

(8) Narrow web-flexographic presses are part of the printing and publishing industry source category, but are not part of the publication rotogravure affected source or the product and packaging rotogravure or wide-web flexographic printing affected source and are, therefore, exempt from the requirements of this subpart except as provided in paragraphs (a)(3) through (5) of this section.

(b) Each product and packaging rotogravure or wide-web flexographic printing affected source at a facility that is a major source of HAP, as defined in 40 CFR 63.2, that complies with the criteria of paragraphs (b)(1) or (b)(2) on and after the applicable compliance date as specified in §63.826 of this subpart is subject only to the requirements of §§63.829(e) and 63.830(b)(1) of this subpart.

(1) The owner or operator of the affected source applies no more than 500 kilograms (kg) per month, for every month, of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials on product and packaging rotogravure or wide-web flexographic printing presses, or

(2) The owner or operator of the affected source applies no more than 400 kg per month, for every month, of organic HAP on product and packaging rotogravure or wide-web flexographic printing presses.

(c) Each product and packaging rotogravure or wide-web flexographic printing affected source at a facility that is a major source of HAP, as defined in 40 CFR 63.2, that complies with neither the criterion of paragraph (b)(1) nor (b)(2) of this section in any month after the applicable compliance date as specified in §63.826 of this subpart is, starting with that month, subject to all relevant requirements of this subpart and is no longer eligible to use the provisions of paragraph (b) of this section, even if in subsequent months the affected source does comply with the criteria of paragraphs (b)(1) or (b)(2) of this section.

[61 FR 27140, May 30, 1996, as amended at 71 FR 29799, May 24, 2006]

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§63.822 Definitions.

(a) All terms used in this subpart that are not defined below have the meaning given to them in the CAA and in subpart A of this part.

Affirmative defense means, in the context of an enforcement proceeding, a response or a defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Always-controlled work station means a work station associated with a dryer from which the exhaust is delivered to a control device, with no provision for the dryer exhaust to bypass the control device. Sampling lines for analyzers and relief valves needed for safety purposes are not considered bypass lines.

Capture efficiency means the fraction of all organic HAP emissions generated by a process that are delivered to a control device, expressed as a percentage.

Capture system means a hood, enclosed room, or other means of collecting organic HAP emissions into a closed-vent system that exhausts to a control device.

Car-seal means a seal that is placed on a device that is used to change the position of a valve or damper (e.g., from open to closed) in such a way that the position of the valve or damper cannot be changed without breaking the seal.

Certified product data sheet (CPDS) means documentation furnished by suppliers of inks, coatings, varnishes, adhesives, primers, solvents, and other materials or by an independent third party that provides the organic HAP weight fraction of these materials determined in accordance with §63.827(b), or the volatile matter weight fraction or solids weight fraction determined in accordance with §63.827(c). A material safety data sheet (MSDS) may serve as a CPDS provided the MSDS meets the data

requirements of §63.827(b) and (c). The purpose of the CPDS is to assist the owner or operator in demonstrating compliance with the emission limitations presented in §§63.824-63.825.

Coating means material applied onto or impregnated into a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, solvent-borne coatings, waterborne coatings, wax coatings, wax laminations, extrusion coatings, extrusion laminations, 100 percent solid adhesives, ultra-violet cured coatings, electron beam cured coatings, hot melt coatings, and cold seal coatings. Materials used to form unsupported substrates such as calendaring of vinyl, blown film, cast film, extruded film, and coextruded film are not considered coatings.

Control device means a device such as a carbon adsorber or oxidizer which reduces the organic HAP in an exhaust gas by recovery or by destruction.

Control device efficiency means the ratio of organic HAP emissions recovered or destroyed by a control device to the total organic HAP emissions that are introduced into the control device, expressed as a percentage.

Day means a 24-consecutive-hour period.

Facility means all contiguous or adjoining property that is under common ownership or control, including properties that are separated only by a road or other public right-of-way.

Flexible packaging means any package or part of a package the shape of which can be readily changed. Flexible packaging includes, but is not limited to, bags, pouches, labels, liners and wraps utilizing paper, plastic, film, aluminum foil, metalized or coated paper or film, or any combination of these materials.

Flexographic press means an unwind or feed section, which may include more than one unwind or feed station (such as on a laminator), a series of individual work stations, one or more of which is a flexographic print station, any dryers (including interstage dryers and overhead tunnel dryers) associated with the work stations, and a rewind, stack, or collection section. The work stations may be oriented vertically, horizontally, or around the circumference of a single large impression cylinder. Inboard and outboard work stations, including those employing any other technology, such as rotogravure, are included if they are capable of printing or coating on the same substrate. A publication rotogravure press with one or more flexographic imprinters is not a flexographic press.

Flexographic print station means a print station on which a flexographic printing operation is conducted. A flexographic print station includes an anilox roller that transfers material to a raised image (type or art) on a plate cylinder. The material is then transferred from the image on the plate cylinder to the web or sheet to be printed. A flexographic print station may include a fountain roller to transfer material from the reservoir to the anilox roller, or material may be transferred directly from the reservoir to the anilox roller. The materials applied are of a fluid, rather than paste, consistency.

HAP applied means the organic HAP content of all inks, coatings, varnishes, adhesives, primers, solvent, and other materials applied to a substrate by a product and packaging rotogravure or wide-web flexographic printing affected source.

HAP used means the organic HAP applied by a publication rotogravure printing affected source, including all organic HAP used for cleaning, parts washing, proof presses, and all organic HAP emitted during tank loading, ink mixing, and storage.

Intermittently-controllable work station means a work station associated with a dryer with provisions for the dryer exhaust to be delivered to or diverted from a control device depending on the position of a

valve or damper. Sampling lines for analyzers and relief valves needed for safety purposes are not considered bypass lines.

Month means a calendar month or a prespecified period of 28 days to 35 days.

Narrow-web flexographic press means a flexographic press that is not capable of printing substrates greater than 18 inches in width and that does not also meet the definition of rotogravure press (i.e., it has no rotogravure print stations).

Never-controlled work station means a work station which is not equipped with provisions by which any emissions, including those in the exhaust from any associated dryer, may be delivered to a control device.

Other press means a lithographic press, letterpress press, or screen printing press that does not meet the definition of rotogravure press or flexographic press (i.e., it has no rotogravure print stations and no flexographic print stations), and that does not print on fabric or other textiles as defined in the Printing, Coating, and Dyeing of Fabrics and Other Textiles NESHAP (40 CFR part 63, subpart OOOO), wood furniture components as defined in the Wood Furniture Manufacturing Operations NESHAP (40 CFR part 63, subpart JJ) or wood building products as defined in the Surface Coating of Wood Building Products NESHAP (40 CFR part 63, subpart QQQQ).

Overall Organic HAP control efficiency means the total efficiency of a control system, determined either by:

- (1) The product of the capture efficiency and the control device efficiency or
- (2) A liquid-liquid material balance.

Print station means a work station on which a printing operation is conducted.

Printing operation means the formation of words, designs, or pictures on a substrate other than wood furniture components as defined in the Wood Furniture Manufacturing Operations NESHAP (40 CFR part 63, subpart JJ), wood building products as defined in the Surface Coating of Wood Building Products NESHAP (40 CFR part 63, subpart QQQQ), and fabric or other textiles as defined in the Printing, Coating, and Dyeing of Fabric and Other Textiles NESHAP (40 CFR part 63, subpart OOOO), except for fabric or other textiles for use in flexible packaging.

Product and packaging rotogravure printing means the production, on a rotogravure press, of any printed substrate not otherwise defined as publication rotogravure printing. This includes, but is not limited to, folding cartons, flexible packaging, labels and wrappers, gift wraps, wall and floor coverings, upholstery, decorative laminates, and tissue products.

Proof press means any press which prints only non-saleable items used to check the quality of image formation of rotogravure cylinders or flexographic plates; substrates such as paper, plastic film, metal foil, or vinyl; or ink, coating varnish, adhesive, primer, or other solids-containing material.

Publication rotogravure press means a rotogravure press used for publication rotogravure printing. A publication rotogravure press may include one or more flexographic imprinters. A publication rotogravure press with one or more flexographic imprinters is not a flexographic press.

Publication rotogravure printing means the production, on a rotogravure press, of the following saleable paper products:

- (1) Catalogues, including mail order and premium,
- (2) Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes,
- (3) Display advertisements, including general posters, outdoor advertisements, car cards, window posters; counter and floor displays; point of purchase and other printed display material,
- (4) Magazines,
- (5) Miscellaneous advertisements, including brochures, pamphlets, catalog sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, and shopping news,
- (6) Newspapers, magazine and comic supplements for newspapers, and preprinted newspaper inserts, including hi-fi and spectacular rolls and sections,
- (7) Periodicals, and
- (8) Telephone and other directories, including business reference services.

Research or laboratory equipment means any equipment for which the primary purpose is to conduct research and development into new processes and products, where such equipment is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

Rotogravure press means an unwind or feed section, which may include more than one unwind or feed station (such as on a laminator), a series of individual work stations, one or more of which is a rotogravure print station, any dryers associated with the work stations, and a rewind, stack, or collection section. Inboard and outboard work stations, including those employing any other technology, such as flexography, are included if they are capable of printing or coating on the same substrate.

Rotogravure print station means a print station on which a rotogravure printing operation is conducted. A rotogravure print station includes a rotogravure cylinder and supply for ink or other solids containing material. The image (type and art) to be printed is etched or engraved below the surface of the rotogravure cylinder. On a rotogravure cylinder the printing image consists of millions of minute cells.

Stand-alone equipment means an unwind or feed section, which may include more than one unwind or feed station (such as on a laminator); a series of one or more work stations and any associated dryers; and a rewind, stack, or collection section that is not part of a product and packaging rotogravure or wide-web flexographic press. Stand-alone equipment is sometimes referred to as "off-line" equipment.

Wide-web flexographic press means a flexographic press capable of printing substrates greater than 18 inches in width.

Work station means a unit on which material is deposited onto a substrate.

(b) The symbols used in equations in this subpart are defined as follows:

(1) C_{ahi} = the monthly average, as-applied, organic HAP content of solids-containing material, i, expressed as a weight-fraction, kg/kg.

(2) C_{asi} = the monthly average, as applied, solids content, of solids-containing material, i, expressed as a weight-fraction, kg/kg.

(3) C_{ni} = the organic HAP content of ink or other solids-containing material, i , expressed as a weight-fraction, kg/kg.

(4) C_{nij} = the organic HAP content of solvent j , added to solids-containing material i , expressed as a weight-fraction, kg/kg.

(5) C_{nj} = the organic HAP content of solvent j , expressed as a weight-fraction, kg/kg.

(6) [Reserved]

(7) C_{si} = the solids content of ink or other material, i , expressed as a weight-fraction, kg/kg.

(8) C_{vi} = the volatile matter content of ink or other material, i , expressed as a weight-fraction, kg/kg.

(9) E = the organic volatile matter control efficiency of the control device, percent.

(10) F = the organic volatile matter capture efficiency of the capture system, percent.

(11) G_i = the mass fraction of each solids containing material, i , which was applied at 20 weight-percent or greater solids content, on an as-applied basis, kg/kg.

(12) H = the monthly organic HAP emitted, kg.

(13) H_a = the monthly allowable organic HAP emissions, kg.

(14) H_L = the monthly average, as-applied, organic HAP content of all solids-containing materials applied at less than 0.04 kg organic HAP per kg of material applied, kg/kg.

(15) H_s = the monthly average, as-applied, organic HAP to solids ratio, kg organic HAP/kg solids applied.

(16) H_{si} = the as-applied, organic HAP to solids ratio of material i .

(17) L = the mass organic HAP emission rate per mass of solids applied, kg/kg.

(18) M_{bi} = the sum of the mass of solids-containing material, i , applied on intermittently-controllable work stations operating in bypass mode and the mass of solids-containing material, i , applied on never-controlled work stations, in a month, kg.

(19) M_{bj} = the sum of the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j , applied on intermittently-controllable work stations operating in bypass mode and the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j , applied on never-controlled work stations, in a month, kg.

(20) M_{ci} = the sum of the mass of solids-containing material, i , applied on intermittently-controllable work stations operating in controlled mode and the mass of solids-containing material, i , applied on always-controlled work stations, in a month, kg.

(21) M_{cj} = the sum of the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j , applied on intermittently-controllable work stations operating in controlled mode and the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j , applied on always-controlled work stations in a month, kg.

(22) [Reserved]

(23) M_{in} = the organic volatile matter mass flow rate at the inlet to the control device, kg/h.

(24) M_{io} = the organic volatile matter mass flow rate at the outlet of the control device, kg/h.

(25) M_{nu} = the mass of organic HAP used in a month, kg.

(26) M_i = the mass of ink or other material, i, applied in a month, kg.

(27) M_{ij} = the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, added to solids-containing material, i, in a month, kg.

(28) M_j = the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied in a month, kg.

(29) M_{ij} = the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, added to solids-containing materials which were applied at less than 20 weight-percent solids content, on an as-applied basis, in a month, kg.

(30) M_{vr} = the mass of volatile matter recovered in a month, kg.

(31) M_{vu} = the mass of volatile matter, including water, used in a month, kg.

(32) [Reserved]

(33) n = the number of organic compounds in the vent gas.

(34) p = the number of different inks, coatings, varnishes, adhesives, primers, and other materials applied in a month.

(35) q = the number of different solvents, thinners, reducers, diluents, or other non-solids-containing materials applied in a month.

(36) [Reserved]

(37) R = the overall organic HAP control efficiency, percent.

(38) R_e = the overall effective organic HAP control efficiency for publication rotogravure, percent.

(39) R_v = the organic volatile matter collection and recovery efficiency, percent.

(40) S = the mass organic HAP emission rate per mass of material applied, kg/kg.

(41) 0.0416 = conversion factor for molar volume, kg-mol/m³(@ 293 K and 760 mmHg).

[61 FR 27140, May 30, 1996, as amended at 71 FR 29800, May 24, 2006; 76 FR 22598, Apr. 21, 2011]

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§63.823 Standards: General.

(a) Table 1 to this subpart provides cross references to the 40 CFR part 63, subpart A, general provisions, indicating the applicability of the general provisions requirements to this subpart KK.

(b) Each owner or operator of an affected source subject to this subpart must at all times operate and maintain that 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. 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.

[76 FR 22598, Apr. 21, 2011]

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§63.824 Standards: Publication rotogravure printing.

(a) Each owner or operator of any publication rotogravure printing affected source that is subject to the requirements of this subpart shall comply with these requirements on and after the compliance dates as specified in §63.826 of this subpart.

(b) Each publication rotogravure affected source shall limit emissions of organic HAP to no more than eight percent of the total volatile matter used each month. The emission limitation may be achieved by overall control of at least 92 percent of organic HAP used, by substitution of non-HAP materials for organic HAP, or by a combination of capture and control technologies and substitution of materials. To demonstrate compliance, each owner or operator shall follow the procedure in paragraph (b)(1) of this section when emissions from the affected source are controlled by a solvent recovery device, the procedure in paragraph (b)(2) of this section when emissions from the affected source are controlled by an oxidizer, and the procedure in paragraph (b)(3) of this section when no control device is used.

(1) Each owner or operator using a solvent recovery device to control emissions shall demonstrate compliance by showing that the HAP emission limitation is achieved by following the procedures in either paragraph (b)(1)(i) or (b)(1)(ii) of this section:

(i) Perform a liquid-liquid material balance for each month as follows:

(A) Measure the mass of each ink, coating, varnish, adhesive, primer, solvent, and other material used by the affected source during the month.

(B) Determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent and other material used by the affected source during the month following the procedure in §63.827(b)(1).

(C) Determine the volatile matter content, including water, of each ink, coating, varnish, adhesive, primer, solvent, and other material used by the affected source during the month following the procedure in §63.827(c)(1).

(D) Install, calibrate, maintain and operate, according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile matter recovered by the solvent recovery device on a monthly basis. The device shall be initially certified by the manufacturer to be accurate to within ± 2.0 percent.

(E) Measure the amount of volatile matter recovered for the month.

(F) Calculate the overall effective organic HAP control efficiency (R_e) for the month using Equation 1:

$$R_e = (100) \frac{M_{vu} - M_{ku} + [(M_{vr})(M_{ku} / M_{vu})]}{M_{vu}} \quad Eq\ 1$$

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For the purposes of this calculation, the mass fraction of organic HAP present in the recovered volatile matter is assumed to be equal to the mass fraction of organic HAP present in the volatile matter used.

(G) The affected source is in compliance for the month, if R_e is at least 92 percent each month.

(ii) Use continuous emission monitors, conduct an initial performance test of capture efficiency, and continuously monitor a site specific operating parameter to assure capture efficiency as specified in paragraphs (b)(1)(ii)(A) through (b)(1)(ii)(E) of this section:

(A) Install continuous emission monitors to collect the data necessary to calculate the total organic volatile matter mass flow in the gas stream entering and the total organic volatile matter mass flow in the gas stream exiting the solvent recovery device for each month such that the percent control efficiency (E) of the solvent recovery device can be calculated for the month. This requires continuous emission monitoring of the total organic volatile matter concentration in the gas stream entering the solvent recovery device, the total organic volatile matter concentration in the gas stream exiting the solvent recovery device, and the volumetric gas flow rate through the solvent recovery device. A single continuous volumetric gas flow measurement should be sufficient for a solvent recovery device since the inlet and outlet volumetric gas flow rates for a solvent recovery device are essentially equal. Each month's individual inlet concentration values and corresponding individual gas flow rate values are multiplied and then summed to get the total organic volatile matter mass flow in the gas stream entering the solvent recovery device for the month. Each month's individual outlet concentration values and corresponding individual gas flow rate values are multiplied and then summed to get the total organic volatile matter mass flow in the gas stream exiting the solvent recovery device for the month.

(B) Determine the percent capture efficiency (F) of the capture system according to §63.827(e).

(C) Calculate the overall effective organic HAP control efficiency (R_e) achieved for each month using Equation 2.

$$R_e = (100) \frac{M_{vu} - M_{ku} + [(E/100)(F/100)M_{ku}]}{M_{vu}} \quad Eq\ 2$$

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(D) Install, calibrate, operate and maintain the instrumentation necessary to measure continuously the site-specific operating parameter established in accordance with §63.828(a)(5) whenever a publication rotogravure printing press is operated.

(E) The affected source is in compliance with the requirement for the month if R_e is at least 92 percent, and the capture device is operated at an average value greater than, or less than (as appropriate) the operating parameter value established in accordance with §63.828(a)(5) for each three-hour period.

(2) Each owner or operator using an oxidizer to control emissions shall demonstrate compliance by showing that the HAP emission limitation is achieved by following the procedure in either paragraph (b)(2)(i) or (b)(2)(ii) of this section:

(i) Demonstrate initial compliance through performance tests and continuing compliance through continuous monitoring as follows:

(A) Determine the oxidizer destruction efficiency (E) using the procedure in §63.827(d).

(B) Determine the capture efficiency (F) using the procedure in §63.827(e).

(C) [Reserved]

(D) Calculate the overall effective organic HAP control efficiency (R_e) achieved using Equation 2.

(E) The affected source is in initial compliance if R_e is at least 92 percent. Demonstration of continuing compliance is achieved by continuous monitoring of an appropriate oxidizer operating parameter in accordance with §63.828(a)(4), and by continuous monitoring of an appropriate capture system monitoring parameter in accordance with §63.828(a)(5). The affected source is in continuing compliance if the capture device is operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with §63.828(a)(5), and

(1) if an oxidizer other than a catalytic oxidizer is used, the average combustion temperature for all three-hour periods is greater than or equal to the average combustion temperature established under §63.827(d), or

(2) if a catalytic oxidizer is used, the average catalyst bed inlet temperature for all three-hour periods is greater than or equal to the average catalyst bed inlet temperature established in accordance with §63.827(d).

(ii) Use continuous emission monitors, conduct an initial performance test of capture efficiency, and continuously monitor a site specific operating parameter to assure capture efficiency. The percent control efficiency of the oxidizer shall be demonstrated in accordance with the requirements of paragraph (b)(1)(ii) of this section except that separate continuous measurements of the inlet volumetric gas flow rate and the outlet volumetric gas flow rate are required for an oxidizer.

(3) To demonstrate compliance without the use of a control device, each owner or operator shall compare the mass of organic HAP used to the mass of volatile matter used each month, as specified in paragraphs (b)(3)(i) through (b)(3)(iv) of this section:

(i) Measure the mass of each ink, coating, varnish, adhesive, primer, solvent, and other material used in the affected source during the month.

(ii) Determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent, and other material used during the month following the procedure in §63.827(b)(1), and

(iii) Determine the volatile matter content, including water, of each ink, coating, varnish, adhesive, primer, solvent, and other material used during the month following the procedure in §63.827(c)(1).

(iv) The affected source is in compliance for the month if the mass of organic HAP used does not exceed eight percent of the mass of volatile matter used.

§63.825 Standards: Product and packaging rotogravure and wide-web flexographic printing.

(a) Each owner or operator of any product and packaging rotogravure or wide-web flexographic printing affected source that is subject to the requirements of this subpart shall comply with these requirements on and after the compliance dates as specified in §63.826 of this subpart.

(b) Each product and packaging rotogravure or wide-web flexographic printing affected source shall limit organic HAP emissions to no more than 5 percent of the organic HAP applied for the month; or to no more than 4 percent of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month; or to no more than 20 percent of the mass of solids applied for the month; or to a calculated equivalent allowable mass based on the organic HAP and solids contents of the inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month. The owner or operator of each product and packaging rotogravure or wide-web flexographic printing affected source shall demonstrate compliance with this standard by following one of the procedures in paragraphs (b)(1) through (b)(10) of this section:

(1) Demonstrate that each ink, coating, varnish, adhesive, primer, solvent, diluent, reducer, thinner, and other material applied during the month contains no more than 0.04 weight-fraction organic HAP, on an as-purchased basis, as determined in accordance with §63.827(b)(2).

(2) Demonstrate that each ink, coating, varnish, adhesive, primer, and other solids-containing material applied during the month contains no more than 0.04 weight-fraction organic HAP, on a monthly average as-applied basis as determined in accordance with paragraphs (b)(2)(i)-(ii) of this section. The owner or operator shall calculate the as-applied HAP content of materials which are reduced, thinned, or diluted prior to application, as follows:

(i) Determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent, diluent, reducer, thinner, and other material applied on an as-purchased basis in accordance with §63.827(b)(2).

(ii) Calculate the monthly average as-applied organic HAP content, C_{ahi} of each ink, coating, varnish, adhesive, primer, and other solids-containing material using Equation 3.

$$C_{ahi} = \frac{\left(C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} \right)}{M_i + \sum_{j=1}^q M_{ij}} \quad Eq\ 3$$

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(3)(i) Demonstrate that each ink, coating, varnish, adhesive, primer, and other solids-containing material applied, either

(A) Contains no more than 0.04 weight-fraction organic HAP on a monthly average as-applied basis, or

(B) Contains no more than 0.20 kg of organic HAP per kg of solids applied, on a monthly average as-applied basis.

(ii) The owner or operator may demonstrate compliance in accordance with paragraphs (b)(3)(ii) (A)-(C) of this section.

(A) Use the procedures of paragraph (b)(2) of this section to determine which materials meet the requirements of paragraph (b)(3)(i)(A) of this section,

(B) Determine the as-applied solids content following the procedure in §63.827(c)(2) of all materials which do not meet the requirements of paragraph (b)(3)(i)(A) of this section. The owner or operator may calculate the monthly average as-applied solids content of materials which are reduced, thinned, or diluted prior to application, using Equation 4, and

$$C_{asi} = \frac{C_{si}M_i}{M_i + \sum_{j=1}^q M_j} \quad Eq\ 4$$

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(C) Calculate the as-applied organic HAP to solids ratio, H_{si} , for all materials which do not meet the requirements of paragraph (b)(3)(i)(A) of this section, using Equation 5.

$$H_{si} = \frac{C_{aki}}{C_{asi}} \quad Eq\ 5$$

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(4) Demonstrate that the monthly average as-applied organic HAP content, H_L , of all materials applied is less than 0.04 kg HAP per kg of material applied, as determined by Equation 6.

$$H_L = \frac{\sum_{i=1}^p M_i C_{ki} + \sum_{j=1}^q M_j C_{kj}}{\sum_{i=1}^p M_i + \sum_{j=1}^q M_j} \quad Eq\ 6$$

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(5) Demonstrate that the monthly average as-applied organic HAP content on the basis of solids applied, H_s , is less than 0.20 kg HAP per kg solids applied as determined by Equation 7.

$$H_s = \frac{\sum_{i=1}^p M_i C_{ki} + \sum_{j=1}^q M_j C_{kj}}{\sum_{i=1}^p M_i C_{si}} \quad Eq\ 7$$

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(6) Demonstrate that the total monthly organic HAP applied, H_{app} , as determined by Equation 8, is less than the calculated equivalent allowable organic HAP, H_a , as determined by paragraph (e) of this section.

$$H_{app} = \sum_{i=1}^p M_i C_{hi} + \sum_{j=1}^q M_j C_{hj} \quad \text{Eq. 8}$$

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Where:

H_{app} = Total monthly organic HAP applied, kg.

(7) Operate a capture system and control device and demonstrate an overall organic HAP control efficiency of at least 95 percent for each month. If the affected source operates more than one capture system or more than one control device, and has only always-controlled work stations, then the owner or operator shall demonstrate compliance in accordance with the provisions of either paragraph (f) or (h) of this section. If the affected source operates one or more never-controlled work stations or one or more intermittently-controllable work stations, then the owner or operator shall demonstrate compliance in accordance with the provisions of paragraph (f) of this section. Otherwise, the owner or operator shall demonstrate compliance in accordance with the procedure in paragraph (c) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in paragraph (d) of this section when emissions are controlled by an oxidizer.

(8) Operate a capture system and control device and limit the organic HAP emission rate to no more than 0.20 kg organic HAP emitted per kg solids applied as determined on a monthly average as-applied basis. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controllable work stations, then the owner or operator shall demonstrate compliance in accordance with the provisions of paragraph (f) of this section. Otherwise, the owner or operator shall demonstrate compliance following the procedure in paragraph (c) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in paragraph (d) of this section when emissions are controlled by an oxidizer.

(9) Operate a capture system and control device and limit the organic HAP emission rate to no more than 0.04 kg organic HAP emitted per kg material applied as determined on a monthly average as-applied basis. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controllable work stations, then the owner or operator shall demonstrate compliance in accordance with the provisions of paragraph (f) of this section. Otherwise, the owner or operator shall demonstrate compliance following the procedure in paragraph (c) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in paragraph (d) of this section when emissions are controlled by an oxidizer.

(10) Operate a capture system and control device and limit the monthly organic HAP emissions to less than the allowable emissions as calculated in accordance with paragraph (e) of this section. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controllable work stations, then the owner or operator shall demonstrate compliance in accordance with the provisions of paragraph (f) of this section. Otherwise, the owner or operator shall demonstrate compliance following the procedure in paragraph (c) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in paragraph (d) of this section when emissions are controlled by an oxidizer.

(c) To demonstrate compliance with the overall organic HAP control efficiency requirement in §63.825(b)(7) or the organic HAP emissions limitation requirements in §63.825(b)(8)-(10), each owner or operator using a solvent recovery device to control emissions shall show compliance by following the procedures in either paragraph (c)(1) or (c)(2) of this section:

(1) Perform a liquid-liquid material balance for each and every month as follows:

(i) Measure the mass of each ink, coating, varnish, adhesive, primer, solvent and other material applied on the press or group of presses controlled by a common solvent recovery device during the month.

(ii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in §63.827(b)(2).

(iii) Determine the volatile matter content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in §63.827(c)(2).

(iv) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied or emission of less than the calculated allowable organic HAP, determine the solids content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in §63.827(c)(2).

(v) Install, calibrate, maintain, and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile matter recovered by the solvent recovery device on a monthly basis. The device shall be initially certified by the manufacturer to be accurate to within ±2.0 percent.

(vi) Measure the amount of volatile matter recovered for the month.

(vii) Calculate the volatile matter collection and recovery efficiency, R_v , using Equation 9.

$$R_v = 100 \frac{M_w}{\sum_{i=1}^p M_i C_{vi} + \sum_{j=1}^q M_j} \quad Eq\ 9$$

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(viii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, calculate the organic HAP emitted during the month, H , using Equation 10.

$$H = \left[1 - \frac{R_v}{100} \right] \left[\sum_{i=1}^p C_{ki} M_i + \sum_{j=1}^q C_{kj} M_j \right] \quad Eq\ 10$$

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(ix) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, calculate the organic HAP emission rate based on solids applied, L , using Equation 11.

$$L = \frac{H}{\sum_{i=1}^p C_{si} M_i} \quad Eq\ 11$$

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(x) If demonstrating compliance on the basis of organic HAP emission rate based on materials applied, calculate the organic HAP emission rate based on material applied, S, using Equation 12.

$$S = \frac{H}{\sum_{i=1}^p \left[M_i + \sum_{j=1}^q M_{ij} \right]} \quad Eq\ 12$$

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(xi) The affected source is in compliance if

(A) The organic volatile matter collection and recovery efficiency, R_v , is 95 percent or greater, or

(B) The organic HAP emission rate based on solids applied, L, is 0.20 kg organic HAP per kg solids applied or less, or

(C) the organic HAP emission rate based on material applied, S, is 0.04 kg organic HAP per kg material applied or less, or

(D) the organic HAP emitted during the month, H, is less than the calculated allowable organic HAP, H_a , as determined using paragraph (e) of this section.

(2) Use continuous emission monitors, conduct an initial performance test of capture efficiency, and continuously monitor a site specific operating parameter to assure capture efficiency following the procedures in paragraphs (c)(2)(i) through (c)(2)(xi) of this section:

(i) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on materials applied, or emission of less than the calculated allowable organic HAP, measure the mass of each ink, coating, varnish, adhesive, primer, solvent, and other material applied on the press or group of presses controlled by a common control device during the month.

(ii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in §63.827(b)(2).

(iii) Install continuous emission monitors to collect the data necessary to calculate the total organic volatile matter mass flow in the gas stream entering and the total organic volatile mass flow in the gas stream exiting the solvent recovery device for each month such that the percent control efficiency (E) of the solvent recovery device can be calculated for the month. This requires continuous emission monitoring of the total organic volatile matter concentration in the gas stream entering the solvent recovery device, the total organic volatile matter concentration in the gas stream exiting the solvent recovery device, and the volumetric gas flow rate through the solvent recovery device. A single

continuous volumetric gas flow measurement should be sufficient for a solvent recovery device since the inlet and outlet volumetric gas flow rates for a solvent recovery device are essentially equal. Each month's individual inlet concentration values and corresponding individual gas flow rate values are multiplied and then summed to get the total organic volatile matter mass flow in the gas stream entering the solvent recovery device for the month. Each month's individual outlet concentration values and corresponding individual gas flow rate values are multiplied and then summed to get the total organic volatile matter mass flow in the gas stream exiting the solvent recovery device for the month.

(iv) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied or emission of less than the calculated allowable organic HAP, determine the solids content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in §63.827(c)(2).

(v) Install, calibrate, operate and maintain the instrumentation necessary to measure continuously the site-specific operating parameter established in accordance with §63.828(a)(5) whenever a product and packaging rotogravure or wide-web flexographic printing press is operated.

(vi) Determine the capture efficiency (F) in accordance with §63.827(e)-(f).

(vii) Calculate the overall organic HAP control efficiency, (R), achieved for each month using Equation 13.

$$R = \frac{EF}{100} \quad Eq\ 13$$

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(viii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, calculate the organic HAP emitted during the month, H, for each month using Equation 14.

$$H = \left[1 - \left(\frac{E}{100} \frac{F}{100} \right) \right] \left[\sum_{i=1}^p \left(C_{ki} M_i + \sum_{j=1}^q C_{kj} M_j \right) \right] \quad Eq\ 14$$

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(ix) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, calculate the organic HAP emission rate based on solids applied, L, using Equation 15.

$$L = \frac{H}{\sum_{i=1}^p C_s M_i} \quad Eq\ 15$$

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(x) If demonstrating compliance on the basis of organic HAP emission rate based on materials applied, calculate the organic HAP emission rate based on material applied, S, using Equation 16.

$$S = \frac{H}{\sum_{i=1}^p \left[M_i + \sum_{j=1}^q M_{ij} \right]} \quad Eq\ 16$$

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(xi) The affected source is in compliance if the capture system operating parameter is operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with §63.828(a)(5) for each three hour period, and

(A) The organic volatile matter collection and recovery efficiency, R_v , is 95 percent or greater, or

(B) The organic HAP emission rate based on solids applied, L , is 0.20 kg organic HAP per kg solids applied or less, or

(C) The organic HAP emission rate based on material applied, S , is 0.04 kg organic HAP per kg material applied or less, or

(D) The organic HAP emitted during the month, H , is less than the calculated allowable organic HAP, H_a , as determined using paragraph (e) of this section.

(d) To demonstrate compliance with the overall organic HAP control efficiency requirement in §63.825(b)(7) or the overall organic HAP emission rate limitation requirements in §63.825(b)(8)-(10), each owner or operator using an oxidizer to control emissions shall show compliance by following the procedures in either paragraph (d)(1) or (d)(2) of this section:

(1) Demonstrate initial compliance through performance tests of capture efficiency and control device efficiency and continuing compliance through continuous monitoring of capture system and control device operating parameters following the procedures in paragraph (d)(1)(i) through (d)(1)(xi) of this section:

(i) Determine the oxidizer destruction efficiency (E) using the procedure in §63.827(d).

(ii) Determine the capture system capture efficiency (F) in accordance with §63.827(e)-(f).

(iii) Calculate the overall organic HAP control efficiency, (R), achieved using Equation 13.

(iv) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on materials applied, or emission of less than the calculated allowable organic HAP, measure the mass of each ink, coating, varnish, adhesive, primer, solvent, and other material applied on the press or group of presses controlled by a common control device during the month.

(v) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in §63.827(b)(2).

(vi) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied or emission of less than the calculated allowable organic HAP, determine the solids content of each ink,

coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in §63.827(c)(2).

(vii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, calculate the organic HAP emitted during the month, H , for each month using Equation 14.

(viii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, calculate the organic HAP emission rate based on solids applied, L , for each month using Equation 15.

(ix) If demonstrating compliance on the basis of organic HAP emission rate based on materials applied, calculate the organic HAP emission rate based on material applied, S , using Equation 16.

(x) Install, calibrate, operate and maintain the instrumentation necessary to measure continuously the site-specific operating parameters established in accordance with §63.828(a)(4)-(5) whenever a product and packaging rotogravure or wide-web flexographic press is operating.

(xi) The affected source is in compliance, if the oxidizer is operated such that the average operating parameter value is greater than the operating parameter value established in accordance with §63.828(a)(4) for each three-hour period, and the capture system operating parameter is operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with §63.828(a)(5) for each three hour period, and

(A) The overall organic HAP control efficiency, R , is 95 percent or greater, or

(B) The organic HAP emission rate based on solids applied, L , is 0.20 kg organic HAP per kg solids applied or less, or

(C) The organic HAP emission rate based on material applied, S , is 0.04 kg organic HAP per kg material applied or less, or

(D) The organic HAP emitted during the month, H , is less than the calculated allowable organic HAP, H_a , as determined using paragraph (e) of this section.

(2) Use continuous emission monitors, conduct an initial performance test of capture efficiency, and continuously monitor a site specific operating parameter to assure capture efficiency. The percent control efficiency of the oxidizer shall be demonstrated in accordance with the requirements of paragraph (c)(2) of this section except that separate continuous volumetric gas flow measurements of the inlet and outlet volumetric gas flow rates are required for an oxidizer.

(e) Owners or operators may calculate the monthly allowable HAP emissions, H_a , for demonstrating compliance in accordance with paragraph (b)(6), (c)(1)(xi)(D), (c)(2)(xi)(D), or (d)(1)(xi)(D) of this section as follows:

(1) Determine the as-purchased mass of each ink, coating, varnish, adhesive, primer, and other solids-containing material applied each month, M_i .

(2) Determine the as-purchased solids content of each ink, coating, varnish, adhesive, primer, and other solids-containing material applied each month, in accordance with §63.827(c)(2), C_{si} .

(3) Determine the as-purchased mass fraction of each ink, coating, varnish, adhesive, primer, and other solids-containing material which was applied at 20 weight-percent or greater solids content, on an as-applied basis, G_i .

(4) Determine the total mass of each solvent, diluent, thinner, or reducer added to materials which were applied at less than 20 weight-percent solids content, on an as-applied basis, each month, M_{ij} .

(5) Calculate the monthly allowable HAP emissions, H_a , using Equation 17.

$$H_a = 0.20 \left[\sum_{i=1}^p M_i G_i C_{si} \right] + 0.04 \left[\sum_{i=1}^p M_i (1 - G_i) + \sum_{j=1}^q M_{ij} \right] \quad Eq\ 17$$

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(f) Owners or operators of product and packaging rotogravure or wide-web flexographic printing presses shall demonstrate compliance according to the procedures in paragraphs (f)(1) through (f)(7) of this section if the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controllable work stations.

(1) The owner or operator of each solvent recovery system used to control one or more product and packaging rotogravure or wide-web flexographic presses for which the owner or operator chooses to comply by means of a liquid-liquid mass balance shall determine the organic HAP emissions for those presses controlled by that solvent recovery system either

(i) in accordance with paragraphs (c)(1)(i)-(iii) and (c)(1)(v)-(viii) of this section if the presses controlled by that solvent recovery system have only always-controlled work stations, or

(ii) in accordance with paragraphs (c)(1)(ii)-(iii), (c)(1)(v)-(vi), and (g) of this section if the presses controlled by that solvent recovery system have one or more never-controlled or intermittently-controllable work stations.

(2) The owner or operator of each solvent recovery system used to control one or more product and packaging rotogravure or wide-web flexographic presses, for which the owner or operator chooses to comply by means of an initial test of capture efficiency, continuous emission monitoring of the control device, and continuous monitoring of a capture system operating parameter, shall

(i) For each capture system delivering emissions to that solvent recovery system, monitor an operating parameter established in accordance with §63.828(a)(5) to assure capture system efficiency, and

(ii) Determine the organic HAP emissions for those presses served by each capture system delivering emissions to that solvent recovery system either

(A) In accordance with paragraphs (c)(2)(i)-(iii) and (c)(2)(v)-(viii) of this section if the presses served by that capture system have only always-controlled work stations, or

(B) In accordance with paragraphs (c)(2)(ii)-(iii), (c)(2)(v)-(vii), and (g) of this section if the presses served by that capture system have one or more never-controlled or intermittently-controllable work stations.

(3) The owner or operator of each oxidizer used to control emissions from one or more product and packaging rotogravure or wide-web flexographic presses choosing to demonstrate compliance through

performance tests of capture efficiency and control device efficiency and continuing compliance through continuous monitoring of capture system and control device operating parameters, shall

(i) Monitor an operating parameter established in accordance with §63.828(a)(4) to assure control device efficiency, and

(ii) For each capture system delivering emissions to that oxidizer, monitor an operating parameter established in accordance with §63.828(a)(5) to assure capture efficiency, and

(iii) Determine the organic HAP emissions for those presses served by each capture system delivering emissions to that oxidizer either

(A) In accordance with paragraphs (d)(1)(i)-(v) and (d)(1)(vii) of this section if the presses served by that capture system have only always-controlled work stations, or

(B) In accordance with paragraphs (d)(1)(i)-(iii), (d)(1)(v), and (g) of this section if the presses served by that capture system have one or more never-controlled or intermittently-controllable work stations.

(4) The owner or operator of each oxidizer used to control emissions from one or more product and packaging rotogravure or wide-web flexographic presses choosing to demonstrate compliance through an initial capture efficiency test, continuous emission monitoring of the control device and continuous monitoring of a capture system operating parameter, shall

(i) For each capture system delivering emissions to that oxidizer, monitor an operating parameter established in accordance with §63.828(a)(5) to assure capture efficiency, and

(ii) Determine the organic HAP emissions for those presses served by each capture system delivering emissions to that oxidizer either

(A) In accordance with paragraphs (c)(2)(i)-(iii) and (c)(2)(v)-(viii) of this section if the presses served by that capture system have only always-controlled work stations, or

(B) In accordance with paragraphs (c)(2)(ii)-(iii), (c)(2)(v)-(vii), and (g) of this section if the presses served by that capture system have one or more never-controlled or intermittently-controllable work stations.

(5) The owner or operator of one or more uncontrolled product and packaging rotogravure or wide-web flexographic printing presses shall determine the organic HAP applied on those presses using Equation 8. The organic HAP emitted from an uncontrolled press is equal to the organic HAP applied on that press.

(6) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied or emission of less than the calculated allowable organic HAP, the owner or operator shall determine the solids content of each ink, coating, varnish, adhesive, primer, solvent and other material applied during the month following the procedure in §63.827(c)(2).

(7) The owner or operator shall determine the organic HAP emissions for the affected source for the month by summing all organic HAP emissions calculated according to paragraphs (f)(1), (f)(2)(ii), (f)(3)(iii), (f)(4)(ii), and (f)(5) of this section. The affected source is in compliance for the month, if all operating parameters required to be monitored under paragraphs (f)(2)-(4) of this section were maintained at the appropriate values, and

(i) The total mass of organic HAP emitted by the affected source was not more than four percent of the total mass of inks, coatings, varnishes, adhesives, primers, solvents, diluents, reducers, thinners and other materials applied by the affected source, or

(ii) The total mass of organic HAP emitted by the affected source was not more than 20 percent of the total mass of solids applied by the affected source, or

(iii) The total mass of organic HAP emitted by the affected source was not more than the equivalent allowable organic HAP emissions for the affected source, H_a , calculated in accordance with paragraph (e) of this section, or

(iv) The total mass of organic HAP emitted by the affected source was not more than five percent of the total mass of organic HAP applied by the affected source. The total mass of organic HAP applied by the affected source in the month shall be determined by the owner or operator using Equation 8.

(g) Owners or operators determining organic HAP emissions from a press or group of presses having one or more never-controlled or intermittently-controllable work stations and using the procedures specified in paragraphs (f)(1)(ii), (f)(2)(ii)(B), (f)(3)(iii)(B), or (f)(4)(ii)(B) of this section shall for that press or group of presses:

(1) Determine the sum of the mass of all inks, coatings, varnishes, adhesives, primers, and other solids-containing materials which are applied on intermittently-controllable work stations in bypass mode and the mass of all inks, coatings, varnishes, adhesives, primers, and other solids-containing materials which are applied on never-controlled work stations during the month, M_{B1} .

(2) Determine the sum of the mass of all solvents, reducers, thinners, and other diluents which are applied on intermittently-controllable work stations in bypass mode and the mass of all solvents, reducers, thinners, and other diluents which are applied on never-controlled work stations during the month, M_{B2} .

(3) Determine the sum of the mass of all inks, coatings, varnishes, adhesives, primers, and other solids-containing materials which are applied on intermittently-controllable work stations in controlled mode and the mass of all inks, coatings, varnishes, adhesives, primers, and other solids-containing materials which are applied on always-controlled work stations during the month, M_{B3} .

(4) Determine the sum of the mass of all solvents, reducers, thinners, and other diluents which are applied on intermittently-controllable work stations in controlled mode and the mass of all solvents, reducers, thinners, and other diluents which are applied on always-controlled work stations during the month, M_{B4} .

(5) For each press or group of presses for which the owner or operator uses the provisions of paragraph (f)(1)(ii) of this section, the owner or operator shall calculate the organic HAP emitted during the month using Equation 18.

$$H = \left[\sum_{i=1}^p M_{\alpha} C_{\alpha i} + \sum_{j=1}^q M_{\beta} C_{\beta j} \right] \left[1 - \frac{M_w}{\sum_{i=1}^p M_{\alpha} C_{\alpha i} + \sum_{j=1}^q M_{\beta} C_{\beta j}} \right] + \left[\sum_{i=1}^p M_{\gamma} C_{\gamma i} + \sum_{j=1}^q M_{\delta} C_{\delta j} \right] \quad Eq 18$$

(6) For each press or group of presses for which the owner or operator uses the provisions of paragraphs (f)(2)(ii)(B), (f)(3)(iii)(B), or (f)(4)(ii)(B) of this section, the owner or operator shall calculate the organic HAP emitted during the month using Equation (19).

$$H = \left[\sum_{i=1}^p M_{G_i} C_{hi} + \sum_{j=1}^q M_{G_j} C_{hj} \right] \left[1 - \left(\frac{E}{100} \frac{F}{100} \right) \right] + \left[\sum_{i=1}^p M_{B_i} C_{hi} + \sum_{j=1}^q M_{B_j} C_{hj} \right] \quad Eq\ 19$$

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(h) If the affected source operates more than one capture system or more than one control device, and has no never-controlled work stations and no intermittently-controllable work stations, then the affected source is in compliance with the 95 percent overall organic HAP control efficiency requirement for the month if for each press or group of presses controlled by a common control device:

(1) The volatile matter collection and recovery efficiency, R_v , as determined by paragraphs (c)(1)(i), (c)(1)(iii), and (c)(1)(v)-(vii) of this section is equal to or greater than 95 percent, or

(2) The overall organic HAP control efficiency as determined by paragraphs (c)(2)(iii) and (c)(2)(v)-(vii) of this section for each press or group of presses served by that control device and a common capture system is equal to or greater than 95 percent and the average capture system operating parameter value for each capture system serving that control device is greater than or less than (as appropriate) the operating parameter value established for that capture system in accordance with §63.828(a)(5) for each three hour period, or

(3) The overall organic HAP control efficiency as determined by paragraphs (d)(1)(i)-(iii) and (d)(1)(x) of this section for each press or group of presses served by that control device and a common capture system is equal to or greater than 95 percent, the oxidizer is operated such that the average operating parameter value is greater than the operating parameter value established in accordance with §63.828(a)(4) for each three hour period, and the average capture system operating parameter value for each capture system serving that control device is greater than or less than (as appropriate) the operating parameter value established for that capture system in accordance with §63.828(a)(5) for each three hour period.

[61 FR 27140, May 30, 1996, as amended at 71 FR 29801, May 24, 2006]

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§63.826 Compliance dates.

(a) The compliance date for an owner or operator of an existing affected source subject to the provisions of this subpart is May 30, 1999.

(b) The compliance date for an owner or operator of a new affected source subject to the provisions of this subpart is immediately upon start-up of the affected source, or May 30, 1996, whichever is later.

(c) Affected sources which have undergone reconstruction are subject to the requirements for new affected sources. The costs associated with the purchase and installation of air pollution control equipment are not considered in determining whether the affected source has been reconstructed. Additionally, the costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart are not considered reconstruction costs.

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§63.827 Performance test methods.

Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(a) An owner or operator using a control device to comply with the requirements of §§63.824-63.825 is not required to conduct an initial performance test to demonstrate compliance if one or more of the criteria in paragraphs (a)(1) through (a)(3) of this section are met:

(1) A control device that is in operation prior to May 30, 1996, does not need to be tested if

(i) It is equipped with continuous emission monitors for determining total organic volatile matter concentration and the volumetric gas flow rate, and capture efficiency has been determined in accordance with the requirements of this subpart, such that an overall organic HAP control efficiency can be calculated, and

(ii) The continuous emission monitors are used to demonstrate continuous compliance in accordance with §63.824(b)(1)(ii), §63.825(b)(2)(ii), §63.825(c)(2), or §63.825(d)(2), as applicable, and §63.828, or

(2) The owner or operator has met the requirements of either §63.7(e)(2)(iv) or §63.7(h), or

(3) The control device is a solvent recovery system and the owner or operator chooses to comply by means of a monthly liquid-liquid material balance.

(b) Determination of the weight fraction organic HAP of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, diluents, and other materials used by a publication rotogravure affected source shall be conducted according to paragraph (b)(1) of this section. Determination of the weight fraction organic HAP of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, diluents, and other materials applied by a product and packaging rotogravure or wide-web flexographic printing affected source shall be conducted according to paragraph (b)(2) of this section. If the weight fraction organic HAP values are not determined using the procedures in paragraphs (b)(1) or (b)(2) of this section, the owner or operator must submit an alternative test method for determining their values for approval by the Administrator in accordance with §63.7(f). The recovery efficiency of the test method must be determined for all of the target organic HAP and a correction factor, if necessary, must be determined and applied.

(1) Each owner or operator of a publication rotogravure affected source shall determine the weight fraction organic HAP of each ink, coating, varnish, adhesive, primer, solvent, and other material used by following one of the procedures in paragraphs (b)(1)(i) through (iii) of this section:

(i) The owner or operator may test the material in accordance with Method 311 of appendix A of this part. The Method 311 determination may be performed by the owner or operator of the affected source, the supplier of the material, or an independent third party. The organic HAP content determined by Method 311 must be calculated according to the criteria and procedures in paragraphs (b)(1)(i)(A) through (C) of this section.

(A) Include each organic HAP determined to be present at greater than or equal to 0.1 weight percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and greater than or equal to 1.0 weight percent for other organic HAP compounds.

(B) Express the weight fraction of each organic HAP included according to paragraph (b)(1)(i)(A) of this section as a value truncated to four places after the decimal point (for example, 0.3791).

(C) Calculate the total weight fraction of organic HAP in the tested material by summing the weight fraction of each organic HAP included according to paragraph (b)(1)(i)(A) of this section and truncating the result to three places after the decimal point (for example, 0.763).

(ii) The owner or operator may determine the weight fraction volatile matter of the material in accordance with §63.827(c)(1) and use this value for the weight fraction organic HAP for all compliance purposes.

(iii) The owner or operator may use formulation data to determine the weight fraction organic HAP of a material. Formulation data may be provided to the owner or operator on a CPDS by the supplier of the material or an independent third party. Formulation data may be used provided that the weight fraction organic HAP is calculated according to the criteria and procedures in paragraphs (b)(1)(iii)(A) through (D) of this section. In the event of an inconsistency between the formulation data and the result of Method 311 of appendix A of this part, where the test result is higher, the Method 311 data will take precedence unless, after consultation, the owner or operator can demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(A) For each raw material used in making the material, include each organic HAP present in that raw material at greater than or equal to 0.1 weight percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and greater than or equal to 1.0 weight percent for other organic HAP compounds. The weight fraction of each such organic HAP in each raw material must be determined by Method 311 of appendix A of this part, by an alternate method approved by the Administrator, or from a CPDS provided by the raw material supplier or an independent third party. The weight fraction of each such organic HAP in each raw material must be expressed as a value truncated to four places after the decimal point (for example, 0.1291).

(B) For each raw material used in making the material, the weight fraction contribution of each organic HAP, which is included according to paragraph (b)(1)(iii)(A) of this section, in that raw material to the weight fraction organic HAP of the material is calculated by multiplying the weight fraction, truncated to four places after the decimal point (for example, 0.1291), of that organic HAP in that raw material times the weight fraction of that raw material, truncated to four places after the decimal point (for example, 0.2246), in the material. The product of each such multiplication is to be truncated to four places after the decimal point (for example, 0.1291 times 0.2246 yields 0.02899586 which truncates to 0.0289).

(C) For each organic HAP which is included according to paragraph (b)(1)(iii)(A) of this section, the total weight fraction of that organic HAP in the material is calculated by adding the weight fraction contribution of that organic HAP from each raw material in which that organic HAP is included according to paragraph (b)(1)(iii)(A) of this section. The sum of each such addition must be expressed to four places after the decimal point.

(D) The total weight fraction of organic HAP in the material is the sum of the counted individual organic HAP weight fractions. This sum must be truncated to three places after the decimal point (for example, 0.763).

(2) Each owner or operator of a product and packaging rotogravure or wide-web flexographic printing affected source shall determine the organic HAP weight fraction of each ink, coating, varnish, adhesive, primer, solvent, and other material applied by following one of the procedures in paragraphs (b)(2)(i) through (iii) of this section:

(i) The owner or operator may test the material in accordance with Method 311 of appendix A of this part. The Method 311 determination may be performed by the owner or operator of the affected source,

the supplier of the material, or an independent third party. The organic HAP content determined by Method 311 must be calculated according to the criteria and procedures in paragraphs (b)(2)(i)(A) through (C) of this section.

(A) Include each organic HAP determined to be present at greater than or equal to 0.1 weight percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and greater than or equal to 1.0 weight percent for other organic HAP compounds.

(B) Express the weight fraction of each organic HAP included according to paragraph (b)(2)(i)(A) of this section as a value truncated to four places after the decimal point (for example, 0.3791).

(C) Calculate the total weight fraction of organic HAP in the tested material by summing the weight fraction of each organic HAP included according to paragraph (b)(2)(i)(A) of this section and truncating the result to three places after the decimal point (for example, 0.763).

(ii) The owner or operator may determine the weight fraction volatile matter of the material in accordance with §63.827(c)(2) and use this value for the weight fraction organic HAP for all compliance purposes.

(iii) The owner or operator may use formulation data to determine the weight fraction organic HAP of a material. Formulation data may be provided to the owner or operator on a CPDS by the supplier of the material or an independent third party. Formulation data may be used provided that the weight fraction organic HAP is calculated according to the criteria and procedures in paragraphs (b)(2)(iii)(A) through (D) of this section. In the event of an inconsistency between the formulation data and the result of Method 311 of appendix A of this part, where the test result is higher, the Method 311 data will take precedence unless, after consultation, the owner or operator can demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(A) For each raw material used in making the material, include each organic HAP present in that raw material at greater than or equal to 0.1 weight percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and greater than or equal to 1.0 weight percent for other organic HAP compounds. The weight fraction of each such organic HAP in each raw material must be determined by Method 311 of appendix A of this part, by an alternate method approved by the Administrator, or from a CPDS provided by the raw material supplier or an independent third party. The weight fraction of each such organic HAP in each raw material must be expressed as a value truncated to four places after the decimal point (for example, 0.1291).

(B) For each raw material used in making the material, the weight fraction contribution of each organic HAP, which is included according to paragraph (b)(2)(iii)(A) of this section, in that raw material to the weight fraction organic HAP of the material is calculated by multiplying the weight fraction, truncated to four places after the decimal point (for example, 0.1291), of that organic HAP in that raw material times the weight fraction of that raw material, truncated to four places after the decimal point (for example, 0.2246), in the material. The product of each such multiplication is truncated to four places after the decimal point (for example, 0.1291 times 0.2246 yields 0.02899586 which truncates to 0.0289).

(C) For each organic HAP which is included according to paragraph (b)(2)(iii)(A) of this section, the total weight fraction of that organic HAP in the material is calculated by adding the weight fraction contribution of that organic HAP from each raw material in which that organic HAP is included according to paragraph (b)(2)(iii)(A) of this section. The sum of each such addition must be expressed to four places after the decimal point.

(D) The total weight fraction of organic HAP in the material is the sum of the counted individual organic HAP weight fractions. This sum is to be truncated to three places after the decimal point (for example, 0.763).

(c) Determination of the weight fraction volatile matter content of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, diluents, and other materials used by a publication rotogravure affected source shall be conducted according to paragraph (c)(1) of this section. Determination of the weight fraction volatile matter content and weight fraction solids content of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, diluents, and other materials applied by a product and packaging rotogravure or wide-web flexographic printing affected source shall be conducted according to paragraph (c)(2) of this section.

(1) Each owner or operator of a publication rotogravure affected source shall determine the volatile matter weight fraction of each ink, coating, varnish, adhesive, primer, solvent, reducer, thinner, diluent, and other material used by following the procedures in paragraph (b)(1)(i) of this section, or by using formulation data as described in paragraph (c)(3) of this section.

(i) Determine the volatile matter weight fraction of the material using Method 24A of 40 CFR part 60, appendix A. The Method 24A determination may be performed by the owner or operator of the affected source, the supplier of the material, or an independent third party. The Method 24A result shall be truncated to three places after the decimal point (for example, 0.763). If these values cannot be determined using Method 24A, the owner or operator shall submit an alternative technique for determining their values for approval by the Administrator.

(2) Each owner or operator of a product and packaging rotogravure or wide-web flexographic printing affected source shall determine the volatile matter weight fraction and solids weight fraction of each ink, coating, varnish, adhesive, primer, solvent, reducer, thinner, diluent, and other material applied by following the procedures in paragraphs (b)(2)(i) and (ii) of this section, or by using formulation data as described in paragraph (c)(3) of this section.

(i) Determine the volatile matter weight fraction of the material using Method 24 of 40 CFR part 60, appendix A. The Method 24 determination may be performed by the owner or operator of the affected source, the supplier of the material, or an independent third party. The Method 24 result shall be truncated to three places after the decimal point (for example, 0.763). If these values cannot be determined using Method 24, the owner or operator shall submit an alternative technique for determining their values for approval by the Administrator.

(ii) Calculate the solids weight fraction Method 24 result by subtracting the volatile matter weight fraction Method 24 result from 1.000. This calculation may be performed by the owner or operator, the supplier of the material, or an independent third party.

(3) The owner or operator may use formulation data to determine the volatile matter weight fraction or solids weight fraction of a material. Formulation data may be provided to the owner or operator on a CPDS by the supplier of the material or an independent third party. The volatile matter weight fraction and solids weight fraction shall be truncated to three places after the decimal point (for example, 0.763). In the event of any inconsistency between the formulation data and the result of Method 24 or Method 24A of 40 CFR part 60, appendix A, where the test result for volatile matter weight fraction is higher or the test result for solids weight fraction is lower, the applicable test method data will take precedence unless, after consultation, the owner or operator can demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(d) A performance test of a control device to determine destruction efficiency for the purpose of meeting the requirements of §§63.824-63.825 shall be conducted by the owner or operator in accordance with the following:

(1) An initial performance test to establish the destruction efficiency of an oxidizer and the associated combustion zone temperature for a thermal oxidizer and the associated catalyst bed inlet

temperature for a catalytic oxidizer shall be conducted and the data reduced in accordance with the following reference methods and procedures:

(i) Method 1 or 1A of 40 CFR part 60, appendix A is used for sample and velocity traverses to determine sampling locations.

(ii) Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A is used to determine gas volumetric flow rate.

(iii) Method 3 of 40 CFR part 60, appendix A is used for gas analysis to determine dry molecular weight.

(iv) Method 4 of 40 CFR part 60, appendix A is used to determine stack gas moisture.

(v) Methods 2, 2A, 3, and 4 of 40 CFR part 60, appendix A shall be performed, as applicable, at least twice during each test period.

(vi) Method 25 of 40 CFR part 60, appendix A, shall be used to determine organic volatile matter concentration, except as provided in paragraphs (d)(1)(vi)(A) through (D) of this section. The owner or operator shall submit notice of the intended test method to the Administrator for approval along with notice of the performance test required under §63.7(c). The same method must be used for both the inlet and outlet measurements. The owner or operator may use Method 25A of 40 CFR part 60, appendix A, if (A) An exhaust gas organic volatile matter concentration of 50 parts per million by volume (ppmv) or less as carbon is required to comply with the standards of §§63.824-63.825, or

(B) The organic volatile matter concentration at the inlet to the control system and the required level of control are such to result in exhaust gas organic volatile matter concentrations of 50 ppmv or less as carbon, or

(C) Because of the high efficiency of the control device, the anticipated organic volatile matter concentration at the control device exhaust is 50 ppmv or less as carbon, regardless of inlet concentration, or

(D) The control device is not an oxidizer.

(vii) Each performance test shall consist of three separate runs; each run conducted for at least one hour under the conditions that exist when the affected source is operating under normal operating conditions. For the purpose of determining organic volatile matter concentrations and mass flow rates, the average of results of all runs shall apply.

(viii) Organic volatile matter mass flow rates shall be determined using Equation 20:

$$M_f = Q_{sd} C_s [12.0] [0.0416] [10^{-6}] \quad \text{Eq. 20}$$

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Where:

M_f = Total organic volatile matter mass flow rate, kg/hour (h).

Q_{sd} = Volumetric flow rate of gases entering or exiting the control device, as determined according to §63.827(d)(1)(ii), dry standard cubic meters (dscm)/h.

C_c = Concentration of organic compounds as carbon, ppmv.

12.0 = Molecular weight of carbon.

0.0416 = Conversion factor for molar volume, kg-moles per cubic meter (mol/m³) (@ 293 Kelvin (K) and 760 millimeters of mercury (mmHg)).

(ix) Emission control device efficiency shall be determined using Equation 21:

$$E = \frac{M_{in} - M_{out}}{M_{in}} \quad Eq\ 21$$

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(2) The owner or operator shall record such process information as may be necessary to determine the conditions of the performance test. Operations during periods of start-up, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(3) For the purpose of determining the value of the oxidizer operating parameter that will demonstrate continuing compliance, the time-weighted average of the values recorded during the performance test shall be computed. For an oxidizer other than catalytic oxidizer, the owner or operator shall establish as the operating parameter the minimum combustion temperature. For a catalytic oxidizer, the owner or operator shall establish as the operating parameter the minimum gas temperature upstream of the catalyst bed. These minimum temperatures are the operating parameter values that demonstrate continuing compliance with the requirements of §§63.824-63.825.

(e) A performance test to determine the capture efficiency of each capture system venting organic emissions to a control device for the purpose of meeting the requirements of §63.824(b)(1)(ii), §63.824(b)(2), §63.825(c)(2), §63.825(d)(1)-(2), §63.825(f)(2)-(4), or §63.825(h)(2)-(3) shall be conducted by the owner or operator in accordance with the following:

(1) You may assume your capture efficiency equals 100 percent if your capture system is a permanent total enclosure (PTE). You must confirm that your capture system is a PTE by demonstrating that it meets the requirements of section 6 of Method 204 of 40 CFR part 51, appendix M, and that all exhaust gases from the enclosure are delivered to a control device.

(2) You may determine capture efficiency according to the protocols for testing with temporary total enclosures that are specified in Methods 204 and 204A through F of 40 CFR part 51, appendix M. You may exclude never controlled work stations from such capture efficiency determinations.

(f) As an alternative to the procedures specified in §63.827(e) an owner or operator required to conduct a capture efficiency test may use any capture efficiency protocol and test methods that satisfy the criteria of either the Data Quality Objective (DQO) or the Lower Confidence Limit (LCL) approach as described in Appendix A of this subpart. The owner or operator may exclude never-controlled work stations from such capture efficiency determinations.

[61 FR 27140, May 30, 1996, as amended at 71 FR 29802, May 24, 2006; 76 FR 22598, Apr. 21, 2011]

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§63.828 Monitoring requirements.

(a) Following the date on which the initial performance test of a control device is completed, to demonstrate continuing compliance with the standard, the owner or operator shall monitor and inspect each control device required to comply with §§63.824-63.825 to ensure proper operation and maintenance by implementing the applicable requirements in paragraph (a)(1) through (a)(5) of this section.

(1) Owners or operators of product and packaging rotogravure or wide-web flexographic presses with intermittently-controllable work stations shall follow one of the procedures in paragraphs (a)(1)(i) through (a)(1)(iv) of this section for each dryer associated with such a work station:

(i) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow control position indicator that provides a record indicating whether the exhaust stream from the dryer was directed to the control device or was diverted from the control device. The time and flow control position must be recorded at least once per hour, as well as every time the flow direction is changed. The flow control position indicator shall be installed at the entrance to any bypass line that could divert the exhaust stream away from the control device to the atmosphere.

(ii) Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration; a visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve or damper is maintained in the closed position and the exhaust stream is not diverted through the bypass line.

(iii) Ensure that any bypass line valve or damper is in the closed position through continuous monitoring of valve position. The monitoring system shall be inspected at least once every month to ensure that it is functioning properly.

(iv) Use an automatic shutdown system in which the press is stopped when flow is diverted away from the control device to any bypass line. The automatic system shall be inspected at least once every month to ensure that it is functioning properly.

(2) Compliance monitoring shall be subject to the provisions of paragraphs (a)(2)(i) and (a)(2)(ii) of this section, as applicable.

(i) All continuous emission monitors shall comply with performance specifications (PS) 8 or 9 of 40 CFR part 60, appendix B, as appropriate. The requirements of appendix F of 40 CFR part 60 shall also be followed. In conducting the quarterly audits required by appendix F, owners or operators must challenge the monitors with compounds representative of the gaseous emission stream being controlled.

(ii) All temperature monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturers specifications. The calibration of the chart recorder, data logger, or temperature indicator shall be verified every three months; or the chart recorder, data logger, or temperature indicator shall be replaced. The replacement shall be done either if the owner or operator chooses not to perform the calibration, or if the equipment cannot be calibrated properly.

(3) An owner or operator complying with §§63.824-63.825 through continuous emission monitoring of a control device shall install, calibrate, operate, and maintain continuous emission monitors to measure total organic volatile matter concentration and volumetric gas flow rate in accordance with §63.824(b)(1)(ii), §63.825(b)(2)(ii), §63.825(c)(2), or §63.825(d)(2), as applicable.

(4) An owner or operator complying with the requirements of §§63.824-63.825 through the use of an oxidizer and demonstrating continuous compliance through monitoring of an oxidizer operating parameter shall:

(i) For an oxidizer other than a catalytic oxidizer, install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or $\pm 1^{\circ}\text{C}$, whichever is greater. The thermocouple or temperature sensor shall be installed in the combustion chamber at a location in the combustion zone.

(ii) For a catalytic oxidizer, install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or $\pm 1^{\circ}\text{C}$, whichever is greater. The thermocouple or temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet.

(5) An owner or operator complying with the requirements of §§63.824-63.825 through the use of a control device and demonstrating continuous compliance by monitoring an operating parameter to ensure that the capture efficiency measured during the initial compliance test is maintained, shall:

(i) Submit to the Administrator with the compliance status report required by §63.9(h) of the General Provisions, a plan that

(A) Identifies the operating parameter to be monitored to ensure that the capture efficiency measured during the initial compliance test is maintained,

(B) Discusses why this parameter is appropriate for demonstrating ongoing compliance, and

(C) Identifies the specific monitoring procedures;

(ii) Set the operating parameter value, or range of values, that demonstrate compliance with §§63.824-63.825, and

(iii) Conduct monitoring in accordance with the plan submitted to the Administrator unless comments received from the Administrator require an alternate monitoring scheme.

(b) Any excursion from the required operating parameters which are monitored in accordance with paragraphs (a)(4) and (a)(5) of this section, unless otherwise excused, shall be considered a violation of the emission standard.

[61 FR 27140, May 30, 1996, as amended at 71 FR 29804, May 24, 2006]

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§63.829 Recordkeeping requirements.

(a) The recordkeeping provisions of 40 CFR part 63 subpart A of this part that apply and those that do not apply to owners and operators of affected sources subject to this subpart are listed in Table 1 of this subpart.

(b) Each owner or operator of an affected source subject to this subpart shall maintain the records specified in paragraphs (b)(1) through (b)(3) of this section on a monthly basis in accordance with the requirements of §63.10(b)(1) of this part:

(1) Records specified in §63.10(b)(2) of this part, of all measurements needed to demonstrate compliance with this standard, such as continuous emission monitor data, control device and capture

system operating parameter data, material usage, HAP usage, volatile matter usage, and solids usage that support data that the source is required to report.

(2) Records specified in §63.10(b)(3) of this part for each applicability determination performed by the owner or operator in accordance with the requirements of §63.820(a) of this subpart, and

(3) Records specified in §63.10(c) of this part for each continuous monitoring system operated by the owner or operator in accordance with the requirements of §63.828(a) of this subpart.

(c) Each owner or operator of an affected source subject to this subpart shall maintain records of all liquid-liquid material balances performed in accordance with the requirements of §§63.824-63.825 of this subpart. The records shall be maintained in accordance with the requirements of §63.10(b) of this part.

(d) The owner or operator of each facility which commits to the criteria of §63.820(a)(2) shall maintain records of all required measurements and calculations needed to demonstrate compliance with these criteria, including the mass of all HAP containing materials used and the mass fraction of HAP present in each HAP containing material used, on a monthly basis.

(e) The owner or operator of each facility which meets the limits and criteria of §63.821(b)(1) shall maintain records as required in paragraph (e)(1) of this section. The owner or operator of each facility which meets the limits and criteria of §63.821(b)(2) shall maintain records as required in paragraph (e)(2) of this section. Owners or operators shall maintain these records for five years, and upon request, submit them to the Administrator.

(1) For each facility which meets the criteria of §63.821(b)(1), the owner or operator shall maintain records of the total mass of each material applied on product and packaging rotogravure or wide-web flexographic printing presses during each month.

(2) For each facility which meets the criteria of §63.821(b)(2), the owner or operator shall maintain records of the total mass and organic HAP content of each material applied on product and packaging rotogravure or wide-web flexographic printing presses during each month.

(f) The owner or operator choosing to exclude from an affected source, a product and packaging rotogravure or wide-web flexographic press which meets the limits and criteria of §63.821(a)(2)(ii)(A) shall maintain the records specified in paragraphs (f)(1) and (f)(2) of this section for five years and submit them to the Administrator upon request:

(1) The total mass of each material applied each month on the press, including all inboard and outboard stations, and

(2) The total mass of each material applied each month on the press by product and packaging rotogravure or wide-web flexographic printing operations.

(g) Each owner or operator of an affected source subject to this subpart shall maintain records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment), air pollution control equipment, or monitoring equipment.

(h) Each owner or operator of an affected source subject to this subpart shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with §63.823(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

§63.830 Reporting requirements.

(a) The reporting provisions of 40 CFR part 63 subpart A of this part that apply and those that do not apply to owners and operators of affected sources subject to this subpart are listed in Table 1 of this subpart.

(b) Each owner or operator of an affected source subject to this subpart shall submit the reports specified in paragraphs (b)(1) through (b)(6) of this section to the Administrator:

(1) An initial notification required in §63.9(b).

(i) Initial notifications for existing sources shall be submitted no later than one year before the compliance date specified in §63.826(a).

(ii) Initial notifications for new and reconstructed sources shall be submitted as required by §63.9(b).

(iii) For the purpose of this subpart, a Title V or part 70 permit application may be used in lieu of the initial notification required under §63.9(b), provided the same information is contained in the permit application as required by §63.9(b), and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA.

(iv) Permit applications shall be submitted by the same due dates as those specified for the initial notifications.

(2) A Notification of Performance Tests specified in §§63.7 and 63.9(e) of this part. This notification, and the site-specific test plan required under §63.7(c)(2) shall identify the operating parameter to be monitored to ensure that the capture efficiency measured during the performance test is maintained. The operating parameter identified in the site-specific test plan shall be considered to be approved unless explicitly disapproved, or unless comments received from the Administrator require monitoring of an alternate parameter.

(3) A Notification of Compliance Status specified in §63.9(h) of this part.

(4) Performance test reports specified in §63.10(d)(2) of this part.

(5) [Reserved]

(6) A summary report specified in §63.10(e)(3) of this part shall be submitted on a semi-annual basis (i.e., once every 6-month period). These summary reports are required even if the affected source does not have any control devices or does not take the performance of any control devices into account in demonstrating compliance with the emission limitations in §63.824 or §63.825. In addition to a report of operating parameter exceedances as required by §63.10(e)(3)(i), the summary report shall include, as applicable:

(i) Exceedances of the standards in §§63.824-63.825.

(ii) Exceedances of either of the criteria of §63.820(a)(2).

(iii) Exceedances of the criterion of §63.821(b)(1) and the criterion of §63.821(b)(2) in the same month.

(iv) Exceedances of the criterion of §63.821(a)(2)(ii)(A).

(v) 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 §63.823(b), including actions taken to correct a malfunction.

(c)(1) As of January 1, 2012, and within 60 days after the date of completing each performance test, as defined in §63.2 and as required in this subpart, you must submit performance test data, except opacity data, electronically to EPA's Central Data Exchange by using the 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.

(2) All reports required by this subpart not subject to the requirements in paragraph (c)(1) of this section must be sent to the Administrator at the appropriate address listed in §63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (c)(1) of this section in paper format.

[61 FR 27140, May 30, 1996, as amended at 71 FR 29804, May 24, 2006; 76 FR 22598, Apr. 21, 2011]

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§63.831 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.820 through 63.821 and 63.823 through 63.826.

(2) Approval of alternatives to the test method for organic HAP content determination in §63.827(b) and alternatives to the test method for volatile matter in §63.827(c), and major alternatives to other test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

[68 FR 37354, June 23, 2003]

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§§63.832-63.839 [Reserved]

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Table 1 to Subpart KK of Part 63—Applicability of General Provisions to Subpart KK

General provisions reference	Applicable to subpart KK	Comment
§63.1(a)(1)-(a)(4)	Yes.	
§63.1(a)(5)	No	Section reserved.
§63.1(a)(6)-(a)(8)	No.	
§63.1(a)(9)	No	Section reserved.
§63.1(a)(10)-(a)(14)	Yes.	
§63.1(b)(1)	No	Subpart KK specifies applicability.
§63.1(b)(2)-(b)(3)	Yes.	
§63.1(c)(1)	Yes.	
§63.1(c)(2)	No	Area sources are not subject to subpart KK.
§63.1(c)(3)	No	Section reserved.
§63.1(c)(4)	Yes.	
§63.1(c)(5)	No.	
§63.1(d)	No	Section reserved.
§63.1(e)	Yes.	
§63.2	Yes	Additional definitions in subpart KK.
§63.3(a)-(c)	Yes.	
§63.4(a)(1)-(a)(3)	Yes.	
§63.4(a)(4)	No	Section reserved.
§63.4(a)(5)	Yes.	
§63.4(b)-(c)	Yes.	
§63.5(a)(1)-(a)(2)	Yes.	
§63.5(b)(1)	Yes.	

§63.5(b)(2)	No	Section reserved.
§63.5(b)(3)-(b)(6)	Yes.	
§63.5(c)	No	Section reserved.
§63.5(d)	Yes.	
§63.5(e)	Yes.	
§63.5(f)	Yes.	
§63.6(a)	Yes.	
§63.6(b)(1)-(b)(5)	Yes.	
§63.6(b)(6)	No	Section reserved.
§63.6(b)(7)	Yes.	
§63.6(c)(1)-(c)(2)	Yes.	
§63.6(c)(3)-(c)(4)	No	Sections reserved.
§63.6(c)(5)	Yes.	
§63.6(d)	No	Section reserved.
§63.6(e)(1)(i)	No	See 63.823(b) for general duty requirement. Any cross-reference to 63.6(e)(1)(i) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.823(b).
§63.6(e)(1)(ii)	No	
§63.6(e)(1)(iii)	Yes.	
§63.6(e)(2)	No	Section reserved.
§63.6(e)(3)	No	
§63.6(f)(1)	No	
§63.6(f)(2)-(f)(3)	Yes.	
§63.6(g)	Yes.	
§63.6(h)	No	Subpart KK does not require COMS.
§63.6(i)(1)-(i)(14)	Yes.	
§63.6(i)(15)	No	Section reserved.
§63.6(i)(16)	Yes.	
§63.6(j)	Yes.	
§63.7(a)-(d)	Yes.	
§63.7(e)(1)	No	See 63.827 introductory text. Any cross-reference to 63.7(e)(1) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.827 introductory text.
§63.7(e)(2)-(e)(4)	Yes.	
§63.8(a)(1)-(a)(2)	Yes.	

§63.8(a)(3)	No	Section reserved.
§63.8(a)(4)	No	Subpart KK specifies the use of solvent recovery devices or oxidizers.
§63.8(b)	Yes.	
§63.8(c)(1)-(3)	Yes.	
§63.8(c)(4)	No	Subpart KK specifies CMS sampling requirements.
§63.8(c)(5)	No	Subpart KK does not require COMS.
§63.8(c)(6)-(c)(8)	Yes	Provisions for COMS are not applicable.
§63.8(d)(1)-(2)	Yes.	
§63.8(d)(3)	Yes, except for last sentence.	
§63.8(e)-(f)	Yes.	
§63.8(g)	No	Subpart KK specifies CMS data reduction requirements.
§63.9(a)	Yes.	
§63.9(b)(1)	Yes.	
§63.9(b)(2)	Yes	Initial notification submission date extended.
§63.9(b)(3)-(b)(5)	Yes.	
§63.9(c)-(e)	Yes.	
§63.9(f)	No	Subpart KK does not require opacity and visible emissions observations.
§63.9(g)	Yes	Provisions for COMS are not applicable.
§63.9(h)(1)-(h)(3)	Yes.	
§63.9(h)(4)	No	Section reserved.
§63.9(h)(5)-(h)(6)	Yes.	
§63.9(i)	Yes.	
§63.9(j)	Yes.	
§63.10(a)	Yes.	
§63.10(b)(1)	Yes.	
§63.10(b)(2)(i)	No.	
§63.10(b)(2)(ii)	No	See 63.829(g) for recordkeeping of occurrence and duration of malfunctions. See 63.829(h) for recordkeeping of actions taken during malfunction. Any cross-reference to 63.10(b)(2)(ii) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.829(g).
§63.10(b)(2)(iii)	Yes.	
§63.10(b)(2)(iv)-(b)(2)(v)	No.	

§63.10(b)(2)(vi)-(b)(2)(xiv)	Yes.	
§63.10(b)(3)	Yes.	
§63.10(c)(1)	Yes.	
§63.10(c)(2)-(c)(4)	No	Sections reserved.
§63.10(c)(5)-(c)(8)	Yes.	
§63.10(c)(9)	No	Section reserved.
§63.10(c)(10)	No	See 63.830(b)(6)(v) for reporting malfunctions. Any cross-reference to 63.10(c)(10) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.830(b)(6)(v).
§63.10(c)(11)	No	See 63.830(b)(6)(v) for reporting malfunctions. Any cross-reference to 63.10(c)(11) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.830(b)(6)(v).
§63.10(c)(12)-(c)(14)	Yes.	
§63.10(c)(15)	No.	
§63.10(d)(1)-(d)(2)	Yes.	
§63.10(d)(3)	No	Subpart KK does not require opacity and visible emissions observations.
§63.10(d)(4)	Yes.	
§63.10(d)(5)	No.	
§63.10(e)	Yes	Provisions for COMS are not applicable.
§63.10(f)	Yes.	
§63.11	No	Subpart KK specifies the use of solvent recovery devices or oxidizers.
§63.12	Yes.	
§63.13	Yes.	
§63.14	Yes.	
§63.15	Yes.	

[61 FR 27140, May 30, 1996, as amended at 76 FR 22598, Apr. 21, 2011]

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Appendix A to Subpart KK of Part 63—Data Quality Objective and Lower Confidence Limit Approaches for Alternative Capture Efficiency Protocols and Test Methods

1. Introduction

1.1 Alternative capture efficiency (CE) protocols and test methods that satisfy the criteria of either the data quality objective (DQO) approach or the lower confidence limit (LCL) approach are acceptable under §63.827(f). The general criteria for alternative CE protocols and test methods to qualify under either the DQO or LCL approach are described in section 2. The DQO approach and criteria specific to the

DQO approach are described in section 3. The LCL approach and criteria specific to the LCL approach are described in section 4. The recommended reporting for alternative CE protocols and test methods are presented in section 5. The recommended recordkeeping for alternative CE protocols and test methods are presented in section 6.

1.2 Although the Procedures L, G.1, G.2, F.1, and F.2 in §52.741 of part 52 were developed for TTE and BE testing, the same procedures can also be used in an alternative CE protocol. For example, a traditional liquid/gas mass balance CE protocol could employ Procedure L to measure liquid VOC input and Procedure G.1 to measure captured VOC.

2. General Criteria for DQO and LCL Approaches

2.1 The following general criteria must be met for an alternative capture efficiency protocol and test methods to qualify under the DQO or LCL approach.

2.2 An alternative CE protocol must consist of at least three valid test runs. Each test run must be at least 20 minutes long. No test run can be longer than 24 hours.

2.3 All test runs must be separate and independent. For example, liquid VOC input and output must be determined independently for each run. The final liquid VOC sample from one run cannot be the initial sample for another run. In addition, liquid input for an entire day cannot be apportioned among test runs based on production.

2.4 Composite liquid samples cannot be used to obtain an “average composition” for a test run. For example, separate initial and final coating samples must be taken and analyzed for each run; initial and final samples cannot be combined prior to analysis to derive an “average composition” for the test run.

2.5 All individual test runs that result in a CE of greater than 105 percent are invalid and must be discarded.

2.6 If the source can demonstrate to the regulatory agency that a test run should not be considered due to an identified testing or analysis error such as spillage of part of the sample during shipping or an upset or improper operating conditions that is not considered part of normal operation then the test result for that individual test run may be discarded. This limited exception allows sources to discard as “outliers” certain individual test runs without replacing them with a valid test run as long as the facility has at least three valid test runs to use when calculating its DQO or LCL. This exception is limited solely to test runs involving the types of errors identified above.

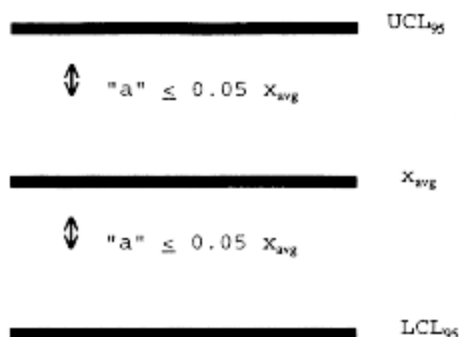
2.7 All valid test runs that are conducted must be included in the average CE determination. The individual test run CE results and average CE results cannot be truncated (i.e., 105 percent cannot be reported as 100 + percent) for purposes of meeting general or specific criteria for either the DQO or the LCL. If the DQO is satisfied and the average CE is greater than 100, then 100 percent CE must be considered the result of the test.

2.8 Alternative test methods for measuring VOC concentration must include a three-point calibration of the gas analysis instrument in the expected concentration range.

3. Data Quality Objective Approach

3.1 The purpose of the DQO is to allow sources to use alternative CE protocols and test methods while ensuring reasonable precision consistent with pertinent requirements of the Clean Air Act. In addition to the general criteria described in section 2, the specific DQO criterion is that the width of the two-sided 95 percent confidence interval of the mean measured value must be less than or equal to 10

percent of the mean measured value (see Figure 1). This ensures that 95 percent of the time, when the DQO is met, the actual CE value will be ± 5 percent of the mean measured value (assuming that the test protocol is unbiased).



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3.2 The DQO calculation is made as follows using Equations 1 and 2:

$$P = \left[\frac{a}{x_{avg}} \right] 100 \quad \text{Eq. 1}$$

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$$a = \frac{t_{0.975} s}{\sqrt{n}} \quad \text{Eq. 2}$$

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Where:

a = Distance from the average measured CE value to the endpoints of the 95-percent (two-sided) confidence interval for the measured value.

n = Number of valid test runs.

P = DQO indicator statistic, distance from the average measured CE value to the endpoints of the 95-percent (two-sided) confidence interval, expressed as a percent of the average measured CE value.

s = Sample standard deviation.

$t_{0.975}$ = t -value at the 95-percent (two-sided) confidence level (see Table A-1).

x_{avg} = Average measured CE value (calculated from all valid test runs).

x_i = The CE value calculated from the i th test run.

TABLE A-1— t -VALUES

Number of valid test runs, n	$t_{0.975}$	$t_{0.90}$
--------------------------------	-------------	------------

1 or 2	N/A	N/A
3	4.303	1.886
4	3.182	1.638
5	2.776	1.533
6	2.571	1.476
7	2.447	1.440
8	2.365	1.415
9	2.306	1.397
10	2.262	1.383
11	2.228	1.372
12	2.201	1.363
13	2.179	1.356
14	2.160	1.350
15	2.145	1.345
16	2.131	1.341
17	2.120	1.337
18	2.110	1.333
19	2.101	1.330
20	2.093	1.328
21	2.086	1.325

3.3 The sample standard deviation and average CE value are calculated using Equations 3 and 4 as follows:

$$s = \left[\frac{\sum_{i=1}^n (x_i - x_{avg})^2}{n-1} \right]^{0.5} \quad Eq\ 3$$

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$$x_{avg} = \frac{\sum_{i=1}^n x_i}{n} \quad Eq\ 4$$

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3.4 The DQO criteria are achieved when all of the general criteria in section 2 are achieved and P ≤5 percent (i.e., the specific DQO criterion is achieved). In order to meet this objective, facilities may have

to conduct more than three test runs. Examples of calculating P, given a finite number of test runs, are shown below. (For purposes of this example it is assumed that all of the general criteria are met.)

3.5 Facility A conducted a CE test using a traditional liquid/gas mass balance and submitted the following results and the calculations shown in Equations 5 and 6:

Run	CE
1	96.1
2	105.0
3	101.2

Therefore:

$$n = 3$$

$$t_{0.975} = 4.30$$

$$x_{\text{avg}} = 100.8$$

$$s = 4.51$$

$$\alpha = \frac{(4.30)(4.51)}{\sqrt{n}} = 11.20 \quad \text{Eq 5}$$

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$$P = \frac{11.2}{100.8} 100 = 11.11 \quad \text{Eq 6}$$

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3.6 Since the facility did not meet the specific DQO criterion, they ran three more test runs.

Run	CE
4	93.2
5	96.2
6	87.6

3.7 The calculations for Runs 1-6 are made as follows using Equations 7 and 8:

$$n = 6$$

$$t_{0.975} = 2.57$$

$$x_{\text{avg}} = 96.6$$

$$s = 6.11$$

$$\alpha = \frac{(2.57)(6.11)}{\sqrt{6}} = 6.41 \quad Eq\ 7$$

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$$P = \frac{6.41}{96.6} 100 = 6.64 \quad Eq\ 8$$

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3.8 The facility still did not meet the specific DQO criterion. They ran three more test runs with the following results:

Run	CE
7	92.9
8	98.3
9	91.0

3.9 The calculations for Runs 1-9 are made as follows using Equations 9 and 10:

$$n = 9$$

$$t_{0.975} = 2.31$$

$$x_{avg} = 95.7$$

$$s = 5.33$$

$$\alpha = \frac{(2.31)(5.33)}{\sqrt{9}} = 4.10 \quad Eq\ 9$$

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$$P = \frac{4.10}{95.7} 100 = 4.28 \quad Eq\ 10$$

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3.10 Based on these results, the specific DQO criterion is satisfied. Since all of the general criteria were also satisfied, the average CE from the nine test runs can be used to determine compliance.

4. Lower Confidence Limit Approach

4.1 The purpose of the LCL approach is to provide sources, that may be performing much better than their applicable regulatory requirement, a screening option by which they can demonstrate compliance. The approach uses less precise methods and avoids additional test runs which might otherwise be needed to meet the specific DQO criterion while still being assured of correctly demonstrating compliance. It is designed to reduce “false positive” or so called “Type II errors” which may erroneously indicate compliance where more variable test methods are employed. Because it encourages

CE performance greater than that required in exchange for reduced compliance demonstration burden, the sources that successfully use the LCL approach could produce emission reductions beyond allowable emissions. Thus, it could provide additional benefits to the environment as well.

4.2 The LCL approach compares the 80 percent (two-sided) LCL for the mean measured CE value to the applicable CE regulatory requirement. In addition to the general criteria described in section 2, the specific LCL criteria are that either the LCL be greater than or equal to the applicable CE regulatory requirement or that the specific DQO criterion is met. A more detailed description of the LCL approach follows:

4.3 A source conducts an initial series of at least three runs. The owner or operator may choose to conduct additional test runs during the initial test if desired.

4.4 If all of the general criteria are met and the specific DQO criterion is met, then the average CE value is used to determine compliance.

4.5 If the data meet all of the general criteria, but do not meet the specific DQO criterion; and the average CE, using all valid test runs, is above 100 percent then the test sequence cannot be used to calculate the LCL. At this point the facility has the option of (a) conducting more test runs in hopes of meeting the DQO or of bringing the average CE for all test runs below 100 percent so the LCL can be used or (b) discarding all previous test data and retesting.

4.6 The purpose of the requirement in Section 4.5 is to protect against protocols and test methods which may be inherently biased high. This is important because it is impossible to have an actual CE greater than 100 percent and the LCL approach only looks at the lower end variability of the test results. This is different from the DQO which allows average CE values up to 105 percent because the DQO sets both upper and lower limits on test variability.

4.7 If at any point during testing the results meet the DQO, the average CE can be used for demonstrating compliance with the applicable regulatory requirement. Similarly, if the average CE is below 100 percent then the LCL can be used for demonstrating compliance with the applicable regulatory requirement without regard to the DQO.

4.8 The LCL is calculated at an 80 percent (two-sided) confidence level as follows using Equation 11:

$$LC_1 = \bar{x}_{avg} - \frac{t_{0.90} s}{\sqrt{n}} \quad \text{Eq. 11}$$

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Where:

LC_1 = LCL at an 80-percent (two-sided) confidence level.

n = Number of valid test runs.

s = Sample standard deviation.

$t_{0.90}$ = t-value at the 80-percent (two-sided) confidence level (see Table A-1).

$\bar{x}_{avg}$ = Average measured CE value (calculated from all valid test runs).

4.9 The resulting LC_1 is compared to the applicable CE regulatory requirement. If LC_1 exceeds (i.e., is higher than) the applicable regulatory requirement, then a facility is in initial compliance. However, if the LC_1 is below the CE requirement, then the facility must conduct additional test runs. After this point the test results will be evaluated not only looking at the LCL, but also the DQO of ± 5 percent of the mean at a 95 percent confidence level. If the test results with the additional test runs meet the DQO before the LCL exceeds the applicable CE regulatory requirement, then the average CE value will be compared to the applicable CE regulatory requirement for determination of compliance.

4.10 If there is no specific CE requirement in the applicable regulation, then the applicable CE regulatory requirement is determined based on the applicable regulation and an acceptable destruction efficiency test. If the applicable regulation requires daily compliance and the latest CE compliance demonstration was made using the LCL approach, then the calculated LC_1 will be the highest CE value which a facility is allowed to claim until another CE demonstration test is conducted. This last requirement is necessary to assure both sufficiently reliable test results in all circumstances and the potential environmental benefits referenced above.

4.11 An example of calculating the LCL is shown below. Facility B's applicable regulatory requirement is 85 percent CE. Facility B conducted a CE test using a traditional liquid/gas mass balance and submitted the following results and the calculation shown in Equation 12:

Run	CE
1	94.2
2	97.6
3	90.5

Therefore:

$$n = 3$$

$$t_{0.90} = 1.886$$

$$x_{\text{avg}} = 94.1$$

$$s = 3.55$$

$$LC_1 = 94.1 - \frac{(1.886)(3.55)}{\sqrt{3}} = 90.23 \quad \text{Eq 12}$$

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4.12 Since the LC_1 of 90.23 percent is above the applicable regulatory requirement of 85 percent then the facility is in compliance. The facility must continue to accept the LC_1 of 90.23 percent as its CE value until a new series of valid tests is conducted. (The data generated by Facility B do not meet the specific DQO criterion.)

5. Recommended Reporting for Alternative CE Protocols

5.1 If a facility chooses to use alternative CE protocols and test methods that satisfy either the DQO or LCL and the additional criteria in section 4., the following information should be submitted with each test report to the appropriate regulatory agency:

1. A copy of all alternative test methods, including any changes to the EPA reference methods, QA/QC procedures and calibration procedures.

2. A table with information on each liquid sample, including the sample identification, where and when the sample was taken, and the VOC content of the sample;

3. The coating usage for each test run (for protocols in which the liquid VOC input is to be determined);

4. The quantity of captured VOC measured for each test run;

5. The CE calculations and results for each test run;

6. The DQO or LCL calculations and results; and

7. The QA/QC results, including information on calibrations (e.g., how often the instruments were calibrated, the calibration results, and information on calibration gases, if applicable).

6. Recommended Recordkeeping for Alternative CE Protocols.

6.1 A record should be kept at the facility of all raw data recorded during the test in a suitable form for submittal to the appropriate regulatory authority upon request.

[61 FR 27140, May 30, 1996, as amended at 71 FR 29804, May 24, 2006]

Appendix B:

40 CFR Part 63, Subpart ZZZZ - *National Emissions Standards for Hazardous Air Pollutants for
Stationary Reciprocating Internal Combustion Engines*

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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

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SOURCE: 69 FR 33506, June 15, 2004, unless otherwise noted.

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WHAT THIS SUBPART COVERS

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§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.

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§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).

§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]

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§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]

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EMISSION AND OPERATING LIMITATIONS

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§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]

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§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]

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§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]

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§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]

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§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]

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GENERAL COMPLIANCE REQUIREMENTS

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§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]

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TESTING AND INITIAL COMPLIANCE REQUIREMENTS

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§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]

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§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]

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§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]

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§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.

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§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:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

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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 (CO₂). If pollutant concentrations are to be corrected to 15 percent oxygen and CO₂ concentration is measured in lieu of oxygen concentration measurement, a CO₂ correction factor is needed. Calculate the CO₂ 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:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

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Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO₂ 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, dscf/10⁶ Btu).

F_c = Ratio of the volume of CO₂ produced to the gross calorific value of the fuel from Method 19, dscf/10⁶ Btu)

(ii) Calculate the CO₂ correction factor for correcting measurement data to 15 percent O₂, as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

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Where:

X_{CO_2} = CO₂ correction factor, percent.

5.9 = 20.9 percent O₂—15 percent O₂, the defined O₂ correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O₂ using CO₂ as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (Eq. 4)$$

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Where:

C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O₂.

C_d = Measured concentration of CO, THC, or formaldehyde, uncorrected.

X_{CO_2} = CO₂ correction factor, percent.

%CO₂ = Measured CO₂ 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]

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§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 O₂ or CO₂ 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 CO₂ 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]

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§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 O₂ using one of the O₂ measurement methods specified in Table 4 of this subpart. Measurements to determine O₂ 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 O₂ 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]

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CONTINUOUS COMPLIANCE REQUIREMENTS

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§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]

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§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 O₂ using one of the O₂ measurement methods specified in Table 4 of this subpart. Measurements to determine O₂ 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 O₂ 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]

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NOTIFICATIONS, REPORTS, AND RECORDS

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§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]

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§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]

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§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]

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§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).

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OTHER REQUIREMENTS AND INFORMATION

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§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]

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§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).

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§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 of 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 CO₂.

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 CO₂.

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 CO₂, 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 P 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 Z.

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]

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Table 1a to Subpart Z 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 . . .
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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]

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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, if applicable) and not using NSCR; or	Comply with any operating limitations approved by the Administrator.
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.	

¹Sources 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]

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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	

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

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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.	

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

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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 CI RICE ¹	a. Change oil and filter every 500 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	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. 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	Limit concentration of CO in	

2SLB stationary RICE 100≤HP≤500	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 .	

¹If 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.

²Sources 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.

³Sources 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]

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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	Minimize the engine's time spent at idle and minimize the engine's

	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.	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	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	

operate 24 hours or less per calendar year. ²	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	a. Change oil and filter	

stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	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.	

¹Sources 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.

²If 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]

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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	Limit the concentration of formaldehyde in the	Conduct subsequent performance tests

RICE $250 \leq \text{HP} \leq 500$ located at major sources	stationary RICE exhaust	semiannually. ¹
4. Existing non-emergency, non-black start CI stationary RICE >500 HP that are not limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent 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.

¹After 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]

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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 <i>and</i> 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 <i>and</i> 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 formaldehyde 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. Stationary RICE	a. limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary RICE; and		(a) For formaldehyde, 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 <i>and</i> 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 ₂ concentration 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 stationary 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 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 CO concentration.
		iv. Measure formaldehyde at the exhaust of the stationary 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 stationary 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.

^aYou 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.

^bYou 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]

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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-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or	a. Reduce CO emissions and using oxidation catalyst,	i. The average reduction of emissions of CO determined from the initial performance test achieves the required

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	and using a CPMS	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	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

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		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	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or

	using NSCR	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 $250 \leq \text{HP} \leq 500$ 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 $250 \leq \text{HP} \leq 500$ 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 $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ 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 $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE	a. Limit the concentration of formaldehyde or CO in the stationary RICE	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

300<HP≤500 located at an area source of HAP	exhaust	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]

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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	a. Reduce CO emissions and using an oxidation catalyst,	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is

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	and using a CPMS	achieved ^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.
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 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 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 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 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	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 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.
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^aAfter 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]

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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 $100 \leq \text{HP} \leq 500$ located at 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 $250 \leq \text{HP} \leq 500$ located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating 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	i. Semiannually according to the requirements in §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	i. Semiannually according to the

		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	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 gross heat input on an annual basis; and	i. Annually, according to the requirements in §63.6650.
		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).

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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 monitoring systems	Yes.	
§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 delegation of notification requirements	Yes.	
§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]

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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 (O₂) 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 (O₂).

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 O₂, 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 O₂ 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 O₂ 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 O₂ 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 NO₂ 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 O₂ 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 O₂; 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 O₂. 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 O₂) is acceptable for calibration of the O₂ cell. If needed, any lower percentage O₂ calibration gas must be a mixture of O₂ 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 O₂ Calibration Gas Concentration.

Select an O₂ 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 O₂. When the average exhaust gas O₂ readings are above 6 percent, you may use dry ambient air (20.9 percent O₂) for the up-scale O₂ 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., CO₂).

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 O₂ 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 O₂ 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 O₂ for the O₂ 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 O₂, 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 O₂, 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 O₂ 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 NO₂ gas standards that are generally recognized as representative of diesel-fueled engine NO and NO₂ 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 NO₂ 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.

17.0 REFERENCES

(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.

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