DIVISION OF ENVIRONMENTAL QUALITY

DRAFT OPERATING AIR PERMIT

PERMIT NUMBER: 1781-AOP-R5

IS ISSUED TO:
City of Little Rock - Solid Waste Facility
10803 Ironton Cutoff Rd.
Little Rock, AR 72206
Pulaski County
AFIN: 60-01071

PURSUANT TO THE RULES OF THE ARKANSAS OPERATING AIR PERMIT PROGRAM, 8 CAR PT. 42: THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

AND

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

Signed:

Demetria Kimbrough
Deputy Director, Office of Air Quality

Date

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List of Acronyms and Abbreviations

Ark. Code Ann.	Arkansas Code Annotated
AFIN	Arkansas DEQ Facility Identification Number
C.F.R.	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
HAP	Hazardous Air Pollutant
Hp	Horsepower
lb/hr	Pound Per Hour
MSW	Municipal Solid Waste
MVAC	Motor Vehicle Air Conditioner
NESHAP	National Emission Standards (for) Hazardous Air Pollutants
NMOC	Non-Methane Organic Compounds
No.	Number
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter Equal To Or Smaller Than 2.5 Microns
PM_{10}	Particulate Matter Equal To Or Smaller Than Ten Microns
SO_2	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

SECTION I: FACILITY INFORMATION

PERMITTEE:	City of Little Rock - Solid Waste Facility
AFIN:	60-01071
PERMIT NUMBER:	1781-AOP-R5
FACILITY ADDRESS:	10803 Ironton Cutoff Rd. Little Rock, AR 72206
MAILING ADDRESS:	10803 Ironton Cutoff Rd. Little Rock, AR 72206
COUNTY:	Pulaski County
CONTACT NAME:	Bernard Owens
CONTACT POSITION:	Manager, Solid Waste Services
TELEPHONE NUMBER:	(501) 888-4492
REVIEWING ENGINEER:	Amanda Leamons
UTM North South (Y):	Zone 15: 3834361.23 m
UTM East West (X):	Zone 15: 563996.61 m

SECTION II: INTRODUCTION

Summary of Permit Activity

Little Rock Solid Waste Facility (LRSWF) operates a municipal solid waste landfill located at 10803 Ironton Cutoff Road, approximately 0.5 miles south of the Dixon Road and Arch Street intersection, in Little Rock, Pulaski County, Arkansas 72206. With this permit renewal the following changes have been permitted:

- Increased emission limits for SN-08, SN-09, SN-10, SN-11, and SN-13 based on revised emission calculations;
- Added a requirement to Specific Condition 10 to install an alarm on SN-11 to alert staff when flare is not operating;
- Increased the gasoline throughput limit (Specific Condition 15) for SN-13 from 50,000 gal/yr to 60,000 gal/yr;
- Revised Plantwide Condition 8 to include a maximum annual limit on the waste accepted at the landfill and a provision to update the air permit with any issuance of a new/updated solid waste permit;
- Removed SN-17 emergency generator which was never installed;
- Re-inclusion of SN-14 the emergency generator that was to be replaced by SN-17, previously removed from the permit but never removed from the facility;
- Changed SN-19 to non-emergency status given the engine use in previous years exceeded the allowable use limits for it to continue to be classified as an emergency engine;
- Added two 500-gallon used oil tanks to list of insignificant activities;
- Added the leachate pond to the insignificant activities;
- Removed 40 C.F.R. Part 60, Subpart WWW requirements from the conditions because the facility is now subject to a more stringent state plan;
- Revised the 8 CAR pt. 41, Subpart 16 requirements in the plantwide conditions to include the specific language from 40 C.F.R. Part 60, Subpart Cf to the specific conditions;
- Updated to 40 C.F.R. Part 63, Subpart AAAA requirements in the plantwide conditions; and
- Updated the permit formatting to adhere to the current permit template and recent codification of the state air rules.

Due to the above listed revisions the facility's permitted annual emissions are increasing by 0.7 ton of PM, 2 tons of PM_{10}, 1 ton of SO_2, 5.2 tons of VOC, 10.7 tons of CO, 4.2 tons of NO_x, 3.18 tons of total combined HAPs. While the facility's permitted annual emissions are decreasing by 6.99 tons of total chargeable non-criteria air pollutants (NCAPs) which includes emissions of CFCs, H_2S, and acetone.

Process Description

The Little Rock Solid Waste Facility is a multi-purpose site which contains a Class I landfill, a Class IV landfill, and a yard waste compost facility. The Class I landfill began operation in 1993. The active landfill encompasses approximately 229 acres of land. The permitted disposal capacity of the Class 1 landfill is 19,860,298 cubic yards (7.26 million megagrams (Mg) or 8.004 million in-place tons of municipal solid waste (MSW)). The remaining available capacity of the Class 1 landfill was approximately 13 million cubic yards of waste, as of December 2024.

Municipal Solid Waste (MSW) is collected from the City of Little Rock and surrounding areas. The material is then hauled by truck to the landfill for disposal. The MSW is dumped onto the surface of the active landfill cell and then compacted. Daily cover or intermediate cover is subsequently placed over the garbage at the end of the workday. The generation of landfill gases (LFG) occurs as the wastes decompose. The LFG is gathered by a collection system. Typical collection system design indicates that 75% of the generated LFG will be collected and that 25% will escape as fugitives (SN-10). The collected LFG can be routed to a nearby industrial facility and used as a fuel gas. Normally, it is routed to the LFG backup flare (SN-11) at the landfill site to be combusted in order to control emissions of organics.

Fugitive dust emissions (SN-09) arise from vehicle traffic on the unpaved roads at the landfill. Dust emissions are also generated during the operation of heavy equipment on the landfill itself. The facility maintains a rigorous road watering program to minimize dust emissions.

A 5,000-gallon aboveground storage tank (AST) for gasoline (SN-13) is operated at the landfill. The gasoline is used as fuel in various vehicles and equipment.

Two natural gas-fired emergency generator sets are operated at the Solid Waste Facility. These units provide backup electric power to critical systems during an outage. A 124 horsepower (HP), 48 kilowatt (kW), generator (SN-14) is located at the Collections Building. A 63.9 HP, 47.6 kW, generator (SN-18) is located at the Scale House Building.

In addition, two diesel-fired engines are also operated at the landfill. These units provide backup electric power. A 48.8 HP, 36.4 kW, generator (SN-19) is located at the Fuel Island. A 158.1 HP, 100 kW, emergency generator (SN-20) is located at the Fleet Shop.

Insignificant activities at the site include yard waste grinding and screening, cover material loading and dumping, diesel fuel storage tanks, and a waste oil storage tank. Additionally, the facility has portable emergency generators on site which are occasionally used. Since these are not stationary engines, they are not affected by NSPS and NESHAP rules and regulations and are not considered significant sources.

The Old Little Rock Landfill is located at 11400 Ironton Cutoff Road, less than 1 mile south of the current landfill. The Old Landfill was closed in October 1993 due to new Subtitle D rules and regulations. The original site was a bauxite mine, and after mining ended in 1972, the City of Little Rock began filling the open pit in late 1976. ADEQ ruled August 19, 1996, since both

properties were contiguous and under the same ownership, they should be considered one facility for air permitting purposes. The Old Landfill property contributes less than 1 percent of the total amount of non-methane organic compounds (NMOC) and according to NSPS Subpart WWW may be excluded from control. Therefore, the City of Little Rock did not install an LFG collection system on the Old Landfill property. Any LFG from the Old Little Rock Landfill, which is permanently closed, is an uncontrolled emission (SN-08) since there is no gas gathering system required or installed. Due to the physical nature of the Old Landfill, only trace emissions are anticipated. For permitting convenience, these emissions are grouped with the active landfill (SN-10).

The Little Rock landfill is an affected facility under 40 C.F.R. Part 60, Subpart Cf and 8 CAR pt. 41, Subpart 16, since it has a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, has a NMOC emissions rate in excess of 34 and 50 megagrams per year, and commenced construction, reconstruction or modification or began accepting waste on or after May 30, 1991. Tier II testing was conducted last in November 2003.

The facility is also required to comply with 40 C.F.R. Part 63 Subpart AAAA - National Emission Standards for Hazardous Air Pollutants - Municipal Solid Waste Landfills, since estimated NMOC emissions exceed 50 Mg/yr.

LRSWF accepts asbestos containing wastes, mainly from the demolition of buildings. Therefore, it is subject to Arkansas Asbestos Abatement Rule, 20 CAR § 860-101.

Rules and Regulations

The following table contains the rules and regulations applicable to this permit.

Rules and Regulations
Arkansas Air Pollution Control Code, 8 CAR pt. 40, effective March 14, 2016
Rules of the Arkansas Plan of Implementation for Air Pollution Control, 8 CAR pt. 41, effective May 6, 2022
Rules of the Arkansas Operating Air Permit Program, 8 CAR pt. 42, effective March 14, 2016
40 C.F.R. Part 60, Subpart Cf – Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills (Appendix A)
40 C.F.R. Part 63, Subpart AAAA – *National Emission Standards for Hazardous Air Pollutants (NESHAP)- Municipal Solid Waste Landfills* (Appendix B)
40 C.F.R. Part 63, Subpart ZZZZ *–NESHAP for Stationary Reciprocating Internal Combustion Engines* (Appendix C)
40 C.F.R. Part 63, Subpart CCCCCC *–NESHAP for Gasoline Dispensing Facilities* (Appendix D)
40 C.F.R. Part 60, Subpart JJJJ – *NSPS for Stationary Spark Ignition Internal Combustion Engines* (Appendix E)
40 C.F.R. Part 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* (Appendix F)
40 C.F.R. Part 61, Subpart M – *National Emission Standard for Asbestos* (Appendix G)

Emission Summary

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

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM	45.8	51.7
		PM_{10}	13.9	18.6
		SO_2	1.3	3.5
		VOC	4.4	16.0
		CO	9.3	22.9
		NO_X	12.0	15.4
		Total HAPs	2.55	10.82
		Total Chargeable NCAPs**	0.61	2.61
08 & 10	Landfill Gas Emissions (Non-point)	VOC	2.9	12.8
		CO	0.4	1.8
		Total HAPs	2.31	10.11
		Chargeable NCAPs**	0.57	2.46
09	Roads Fugitive Emissions	PM	43.7	45.4
		PM_{10}	11.8	12.3
11	Landfill Gas Flare	PM	1.4	5.9
		PM_{10}	1.4	5.9
		SO_2	0.7	3.1
		VOC	0.5	2.2
		CO	4.6	19.9
		NO_x	3.0	13.1
		Total HAPs	0.14	0.61
		Chargeable NCAPs**	0.04	0.15
13	Gasoline Storage Tank (5,000 gallons)	VOC	0.2	0.6
		Total HAPs	0.02	0.06
14	124 hp Emergency Generator (installed 2014) – Collections Bldg.	PM	0.1	0.1
		PM_{10}	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
14	124 hp Emergency Generator (installed 2014) – Collections Bldg.	CO	2.7	0.7
		NO_x	1.6	0.4
		Total HAPs	0.03	0.01
18	47.6 kW Emergency Generator (2022) – Scale House Bldg.	PM	0.1	0.1
		PM_{10}	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.1
		CO	0.3	0.1
		NO_x	1.6	0.4
		Total HAPs	0.03	0.01
19	36.4kW Generator (2022) – Fuel Island	PM	0.2	0.1
		PM_{10}	0.2	0.1
		SO_2	0.1	0.1
		VOC	0.2	0.1
		CO	0.4	0.1
		NO_x	1.6	0.4
		Total HAPs	0.01	0.01
20	100 kW Emergency Generator (2023) – Fleet Shop	PM	0.3	0.1
		PM_{10}	0.3	0.1
		SO_2	0.3	0.1
		VOC	0.4	0.1
		CO	0.9	0.3
		NO_x	4.2	1.1
		Total HAPs	0.01	0.01

*HAPs not included in the VOC totals.
**Non-Criteria Air Pollutants (NCAPs) such as HAPs, acetone, and certain halogenated solvents that are not included in the VOC emissions.

SECTION III: PERMIT HISTORY

Permit #**1781-A** was originally issued on October 29, 1998. Total facility emissions were permitted at: 1.2 tpy SO_2, 3.3 tpy VOC, 31.8 tpy CO, and 3.8 tpy NO_X.

Permit #**1781-AOP-R0**, the initial Title V Operating Permit, was issued on July 3, 2007. The facility emissions were permitted at: 186.3 tpy PM, 53.0 tpy PM_{10}, 1.9 tpy SO_2, 9.2 tpy VOC, 154.3 tpy CO, 8.2 tpy NO_X, 0.35 tpy Hydrogen Sulfide, numerous HAPs, and 0.12 tpy acetone.

Permit #**1781-AOP-R1** was issued on April 21, 2009. With this permit revision, the AFIN of the facility was changed, the chargeable emission totals were corrected, the applicable asbestos regulation changed from NESHAP Subpart M to Arkansas Rule 21, and the General Provisions Section of the permit was updated. These changes did not result in a change to any of the permitted emissions.

Permit #**1781-AOP-R2** was issued on May 19, 2015. This permitting action renewed the facility's title V permit. The following changes were made with the renewal:

- An existing emergency generator was added to the permit as SN-12, along with applicable requirements of 40 C.F.R. Part 63, Subpart ZZZZ.
- An existing gasoline storage tank was added to the permit as SN-13, along with applicable tank requirements from 40 C.F.R. Part 63, Subpart CCCCCC.
- Three recently installed natural gas fired emergency generators were added to the permit as SN-14, SN-15, and SN-16, along with applicable requirements for 40 C.F.R. Part 60, Subpart JJJJ and 40 C.F.R. Part 63, Subpart ZZZZ.
- The haul road (SN-09) emissions were re-calculated using current emission factors.
- The requirements of 40 C.F.R. Part 63, Subpart AAAA listed in the Plantwide Conditions were updated.

With the above listed changes overall permitted annual emissions decreased 118.4 tons of PM, 32.2 tons of PM_{10}, and 141.4 tons of CO while permitted annual emissions increased 0.5 ton of SO_2, 3.0 tons of VOC, 2.6 tons of NO_x, 5.15 tons of total combined HAPs, 0.18 ton of acetone, 0.7 ton of CFCs, 8.2 tons of ethane, and 0.03 ton of H_2S.

Permit #**1781-AOP-R3** was issued on July 21, 2020. This permitting action renewed the facility's Title V permit. With this renewal the emission calculations for SN-09 haul roads were revised using updated data, the gasoline fuel throughput limit was increased at SN-13, and one additional activity was added to the insignificant activity list, a 1,000 gallon used oil tank. With all of the above listed changes, the overall permitted annual emissions decreased 16.9 tons of PM, 4.5 tons of PM_{10}, and 0.8 ton of VOC, while permitted annual emissions increased 0.1 ton of SO_2, 0.3 ton of CO, 0.2 ton of NO_x, 1.15 tons of total HAPs, and 0.27 ton of total chargeable NCAPs.

Permit #**1781-AOP-R4** was issued on March 11, 2024. This permitting action removed SN-12 (Stationary Emergency Generator), SN-14 (48kW Emergency Generator (2014) – Collections Bldg.), SN-15 (20 kW Emergency Generator (2013) – Scale House Bldg.), and SN-16 (20 kW Emergency Generator (2014) – Fueling Site); it also added SN-17 (45 kW Emergency Generator (2022) – Collections Bldg.), SN-18 (47.6 kW Emergency Generator (2022) – Scale House Bldg.), SN-19 (36.4 kW Emergency Generator (2023) – Fuel Island), and SN-20 (100 kW Emergency Generator (2023) – Fleet Shop). Annual permitted emission limits increased by 0.2

tpy of NO_X, 0.05 tpy of total chargeable non-criteria air pollutants (NCAPs), while permitted emission limits decreased by 0.6 tpy of VOC, 1.0 tpy of CO, and 2.21 tpy of Total HAPs.

SECTION IV: SPECIFIC CONDITIONS

SN-08 and SN-10
Landfill Gas Emissions (Non-point)

Source Description

This source represents the Old Little Rock Landfill (SN-08) and that portion of the new landfill (SN-10) gas emissions which are not captured (uncontrolled) and are emitted over the surface of the landfill (non-point). Any landfill gas (LFG) from the Old Little Rock Landfill, which is permanently closed, is a fugitive emission (SN-08), since there is no gas gathering system required or installed at the site. Typical collection system design indicates that 75% of the total generated LFG will be collected (SN-11) and that 25% of the total generated LFG will escape as fugitives (SN-10).

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Plantwide Condition 8. [8 CAR § 41-401 et seq. and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
08 & 10	Landfill Gas Emissions (Non-point)	VOC	2.9	12.8
		CO	0.4	1.8

2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Plantwide Condition 8. [8 CAR § 40-701 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
08 & 10	Landfill Gas Emissions (Non-point)	Total HAPs	2.31	10.11
		Chargeable NCAPs*	0.57	2.46

*Chargeable NCAPs include the HAPs and air contaminants that are not criteria air pollutants. These include emissions of acetone, chlorodifluoromethane, dichlorodifluoromethane, methyl chloroform, methylene chloride, hydrogen sulfide, perchloroethylene. Note: Total HAP includes all HAPs regardless of VOC status.

SN-09
Roads Fugitive Emissions

Source Description

This source accounts for particulate emissions which result from the operation of vehicles and equipment over the unpaved roads located at the municipal solid waste landfill site, as well as the operation of equipment over the landfill surface. Dust controls are to include water dispersion equipment.

Specific Conditions

3. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 5. [8 CAR § 41-401 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
09	Roads Fugitive Emissions	PM_{10}	11.8	12.3

4. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 5. [8 CAR § 40-701 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
09	Roads Fugitive Emissions	PM	43.7	45.4

5. The permittee shall not operate in a manner such that fugitive emissions from the facility roads (SN-09) would cause a nuisance off-site or allow visible emissions from extending beyond the property boundary. Under normal conditions, off-site opacity less than or equal to 5% shall not be considered a nuisance. The permittee shall use water sprays or other techniques as necessary to control fugitive emissions. [8 CAR § 40-401 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

6. Nothing in this permit shall be construed to authorize a violation of the Arkansas Water and Air Pollution Control Act or the federal National Pollutant Discharge Elimination System (NPDES). [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-11
Landfill Gas Flare

Source Description

This source consists of the landfill gas (LFG) collection and control system (GCCS), which collects the gases generated by the landfill and routes the gases to the flare (SN-11). The gas collection and control system was conservatively permitted assuming a maximum extraction efficiency of 75% of total generated gas emissions routed to the flare and a flare control efficiency of 98%.

Specific Conditions

7. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 9 through 12 and Plantwide Conditions 8, 45, 55, 56, 73, 74, 78, and 83. [8 CAR § 41-401 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
11	Landfill Gas Flare	PM_{10}	1.4	5.9
		SO_2	0.7	3.1
		VOC	0.5	2.2
		CO	2.4	10.4
		NO_x	2.0	8.8

8. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 9 through 12 and Plantwide Conditions 8, 45, 55, 56, 73, 74, 78, and 83. [8 CAR § 40-701 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
11	Landfill Gas Flare	PM	1.4	5.9
		Total HAPs	0.14	0.61
		Chargeable NCAPs*	0.04	0.15

*Chargeable NCAPs, include the HAPs and air contaminants that are not criteria air pollutants. These include emissions of acetone, chlorodifluoromethane, dichlorodifluoromethane, methyl chloroform, methylene chloride, hydrogen sulfide, perchloroethylene. Note: Total HAP includes all HAPs regardless of VOC status.

9. The permittee shall monitor SN-11 to assure that SN-11 is operated and maintained in conformance with the design. Applicable federal subparts provide provisions stating how owners or operators using flares shall monitor these control devices in the Plantwide Conditions of this permit. [8 CAR § 41-204 and 40 C.F.R. § 63.11(b)(1)]

10. The permittee must operate the flare system pilot flame within the design limitations. The pilot flame may be lit by landfill gas, natural gas, or propane. SN-11 shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. The permittee shall install an alarm system on SN-11 to alert staff when the flare is not operating within 180 days of issuance of 1781-AOP-R5. [8 CAR § 41-203 and §§ 63.11(b)(2) and (5)]

11. SN-11 shall be operated at all times when emissions are vented to the flare. [8 CAR § 41-204 and 40 C.F.R. § 63.11(b)(3)]

12. The landfill gas flare (SN-11) shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours. EPA Reference Test Method 22 in Appendix A of 40 C.F.R. Part 60 shall be used to determine compliance with the visible emission provisions. The observation period is 2 hours and shall be used according to Method 22. [8 CAR § 41-204 and 40 C.F.R. § 63.11(b)(4)]

SN-13
Gasoline Storage Tank

Source Description

A 5,000 gallon gasoline tank holds the fuel used at the facility. This unit is subject to 40 C.F.R. Part 63, Subpart CCCCCC.

Specific Conditions

13. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 15 through 20. [8 CAR § 41-401 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
13	Gasoline Storage Tank	VOC	0.2	0.6

14. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 15 through 20. [8 CAR § 40-701 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
13	Gasoline Storage Tank	Total HAPs*	0.02	0.06

*All of the SN-13 HAPs are included in the VOC totals.

15. The permittee shall not exceed a throughput of 9,999 gallons of gasoline at SN-13 per month and 60,000 gallons of gasoline at SN-13 per rolling 12-month period. Compliance shall be demonstrated through compliance with Specific Condition 16. [8 CAR § 41-605, 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]

16. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition 15. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The 12-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. [8 CAR § 41-605 and 40 C.F.R. § 52 Subpart E]

40 C.F.R. Part 63, Subpart CCCCCC Conditions

17. SN-13 is subject to 40 C.F.R. Part 63, Subpart CCCCCC. The permittee shall comply with all applicable provisions of 40 C.F.R. Part 63, Subpart CCCCCC which include, but is not limited to Specific Conditions 18 through 22. The permittee is responsible for complying with applicable regulations as they appear in the Code of Federal Regulations (C.F.R.) [8 CAR § 41-204 and 40 C.F.R. Part 63, Subpart CCCCCC]

18. SN-13 must maintain a monthly throughput of less than 10,000 gallons of gasoline and the permittee must comply with the requirements in § 63.11116.[8 CAR § 41-204 and 40 C.F.R. § 63.11111(b)]

19. At all times the permittee shall 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. 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. [8 CAR § 41-204 and 40 C.F.R.§ 63.11115(a)]

20. The permittee must keep applicable records and submit reports as specified in 40 C.F.R. § 63.11125(d) and § 63.11126(b). [8 CAR § 41-204 and 40 C.F.R.§ 63.11115(b)]

21. The permittee shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following: [8 CAR § 41-204 and 40 C.F.R. § 63.11116(a)]

    a. Minimize gasoline spills;

    b. Clean up spills as expeditiously as practicable;

    c. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;

    d. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

22. The permittee is not required to submit notifications or reports as specified in 40 C.F.R. § 63.11125, § 63.11126, or Subpart A of 40 C.F.R. Part 63, but the permittee must have records available within 24 hours of a request by the Administrator to document the facility's gasoline throughput. [8 CAR § 41-204 and 40 C.F.R. § 63.11116(b)]

SN-14 and SN-18
Spark Ignition Emergency Generators

Source Description

Two certified emergency generators have been added to the facility to provide power to the facility during power outages. SN-14 is a 124 horsepower, 4-stroke rich burn, emergency engine that burns natural gas. SN-14 was installed in 2014 and is located in the Collections Building. SN-18 is a 63.9 horsepower emergency engine that burns natural gas and was installed in 2022.

SN-14 is a four stroke, rich burn and SN-18 is a four stroke, lean burn, spark ignition engine. Both engines are classified as new emergency reciprocating internal combustion engines (RICE) located at an area source of HAPs under 40 C.F.R. Part 63, Subpart ZZZZ and 40 C.F.R. Part 60, Subpart JJJJ.

Specific Conditions

23. The permittee shall not exceed the emission rates set forth in the following table. Hourly emission limits are based on maximum engine capacity while burning natural gas. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 26. [8 CAR § 41-401 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
14	124 hp Emergency Generator (2014) – Collections Bldg.	PM_{10}	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.1
		CO	2.7	0.7
		NO_x	1.6	0.4
18	47.6 kW Emergency Generator (2022) – Scale House Bldg.	PM_{10}	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.1
		CO	0.3	0.1
		NO_x	1.6	0.4

24. The permittee shall not exceed the emission rates set forth in the following table. Hourly emission limits are based on maximum engine capacity while burning natural gas. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 26. [8 CAR § 40-701 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
14	124 hp Emergency Generator (2014) – Collections Bldg.	PM	0.1	0.1
		Total HAPs	0.03	0.01
18	47.6 kW Emergency Generator (2022) – Scale House Bldg.	PM	0.1	0.1
		Total HAPs	0.03	0.01

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

SN	Limit	Regulatory Citation
14	5%	8 CAR § 40-401
18	5%	8 CAR § 40-401

26. The permittee shall not operate the emergency generators SN-14 and SN-18 in excess of 500 total hours (emergency and non-emergency) per engine, per calendar year in order to demonstrate compliance with the annual emission rate limits. Emergency operation in excess of these hours may be allowable but shall be reported and will be evaluated in accordance with 8 CAR § 41-502 and other applicable rules and regulations. [8 CAR § 41-605, 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]

27. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition 26. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The calendar year 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. [8 CAR § 41-605 and 40 C.F.R. § 52 Subpart E]

40 C.F.R. Part 63, Subpart ZZZZ Conditions

28. SN-14 and SN-18 are subject to 40 C.F.R. Part 63, Subpart ZZZZ and shall comply with all applicable requirements of 40 C.F.R. Part 63, Subpart ZZZZ. Both engines are considered new emergency stationary reciprocating internal combustion engines (RICE) located at an area source of HAP emissions because they commenced construction after June 12, 2006. Therefore, the permittee must meet the requirements of 40 C.F.R. Part 63, Subpart ZZZZ by meeting the requirements of 40 C.F.R. Part 60, Subpart JJJJ, for spark ignition (SI) engines, in accordance with 40 C.F.R. §63.6590 (c)(1). No further requirements apply for SN-14 and SN-18 under 40 C.F.R. Part 63, Subpart ZZZZ. [8 CAR § 41-605 and 40 C.F.R. § 63.6590(a)(2) and (c)]

40 C.F.R. Part 60, Subpart JJJJ Conditions

29. SN-14 and SN-18 are spark ignition, natural gas fired, engines subject to 40 C.F.R. Part 60, Subpart JJJJ - *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*. The permittee shall comply with all applicable provisions of 40 C.F.R. Part 60, Subpart JJJJ which include, but are not limited to Specific Conditions 30 through 44. The permittee is responsible for complying with applicable regulations as they appear in the Code of Federal Regulations (C.F.R.). [8 CAR § 41-204 and 40 C.F.R. Part 60, Subpart JJJJ]

30. SN-14 and SN-18 are emergency SI internal combustion engines that are greater than 25 HP and less than 130 HP. As such, the engines must be certified to the Phase 1 emission standards in 40 C.F.R. Part 1054, Appendix I, applicable to class II engines, for new nonroad SI engines in 40 C.F.R. Part 1054. [8 CAR § 41-204 and 40 C.F.R. § 60.4231(d)]

31. SN-18 is SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) and must comply with the emission standards in Table 1 to 40 C.F.R. Part 60, Subpart JJJJ. [8 CAR § 41-204 and 40 C.F.R. § 60.4233(d)]

Table 1 to Subpart JJJJ of Part 60:

NO_X, CO, and VOC Emission Standards for Stationary Emergency Engines >25 HP

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards		
			g/HP-hr		
			NO_X	CO	VOC[d]
Emergency (NG)	25<HP<130	1/1/2009	[c]10	387	N/A

[c] Emission standards applicable to emergency engines between 25 HP and 130 HP are in terms of NO_X + HC.
[d] For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

32. SN-14 is a stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) and must comply with the emission standards in Table 1 of 40 C.F.R. Part 60, Subpart JJJJ for engines subject to 40 C.F.R. Part 60, Subpart JJJJ. [8 CAR § 41-204 and 40 C.F.R. § 60.4233(e)]

33. The permittee must operate and maintain all stationary SI ICE subject to 40 C.F.R. Part 60, Subpart JJJJ in compliance with 40 C.F.R. § 60.4233 over the entire life of the engine. [8 CAR § 41-204 and 40 C.F.R. § 60.4234]

34. The emergency stationary SI internal combustion engines are less than 130 HP, were built on or after July 1, 2008, and do not meet the standards applicable to non-emergency engines; therefore, the permittee must install a non-resettable hour meter upon startup of the emergency engine. [8 CAR § 41-204 and 40 C.F.R. § 60.4237(c)]

35. For all stationary SI internal combustion engine(s) subject to 40 C.F.R. § 60.4233(d) or (e), the permittee must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of 40 C.F.R. § 60.4243. The permittee has chosen to comply with the method listed in (b)(1) of 40 C.F.R. § 60.4243. [8 CAR § 41-204 and 40 C.F.R. § 60.4243(b)]

36. The permittee must demonstrate compliance with Specific Condition 35 by purchasing engines certified according to procedures specified in 40 C.F.R. Part 60, Subpart JJJJ, for the same model year and demonstrating compliance according to one of the methods specified in 40 C.F.R. § 60.4243(a). The permittee has chosen to comply with the method listed in (a) (1) of 40 C.F.R. §60.4243. [8 CAR § 41-204 and 40 C.F.R. § 60.4243(b)(1)]

37. The permittee must operate and maintain the certified stationary SI internal combustion engines and control devices according to the manufacturer's emission-related written instructions. The permittee must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 C.F.R. Part 1068, Subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance. [8 CAR § 41-204 and 40 C.F.R. § 60.4243(a)(1)]

38. The permittee must operate the emergency stationary IC engines (SN-14 and SN-18) according to the requirements in § 60.4243 (d)(1) through (3). In order for the engine to be considered an emergency stationary ICE under 40 C.F.R. Part 60, Subpart JJJJ, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in § 60.4243 (d)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in § 60.4243 (d)(1) through (3), the engine will not be considered an emergency engine under Subpart JJJJ and must meet all requirements for non-emergency engines. [8 CAR § 41-204 and 40 C.F.R. § 60.4243(d)]

    a. There is no time limit on the use of emergency stationary ICE in emergency situations. [40 C.F.R. § 60.4243 (d)(1)]

    b. The permittee may operate the emergency stationary ICE for the purposes specified in § 60.4243 (d)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by § 60.4243 (d)(3) counts as part of the 100 hours per calendar year allowed by § 60.4243 (d)(2). [40 C.F.R. § 60.4243 (d)(2)]

        i. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee 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 permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [40 C.F.R. § 60.4243 (d)(2)(i)]

c. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in § 60.4243 (d)(2). Except as provided in § 60.4243 (d)(3)(i), 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. [40 C.F.R. § 60.4243 (d)(3)]

i. The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: [40 C.F.R. § 60.4243 (d)(3)(i)]

1. The engine is dispatched by the local balancing authority or local transmission and distribution system operator; [40 C.F.R. § 60.4243 (d)(3)(i)(A)]
2. 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. [40 C.F.R. § 60.4243 (d)(3)(i)(B)]
3. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. [40 C.F.R. § 60.4243 (d)(3)(i)(C)]
4. The power is provided only to the facility itself or to support the local transmission and distribution system. [40 C.F.R. § 60.4243 (d)(3)(i)(D)]
5. The permittee 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. [40 C.F.R. § 60.4243 (d)(3)(i)(E)]

39. The permittee must meet the following notification, reporting and recordkeeping requirements for all 40 C.F.R. Part 60, Subpart JJJJ engines. [8 CAR § 41-204 and 40 C.F.R. § 60.4245(a)]

a. All notifications submitted to comply with 40 C.F.R. Part 60, Subpart JJJJ and all documentation supporting any notification.

b. Maintenance conducted on the engine.

c. For a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 C.F.R. Parts 1048, 1054, and 1060, as applicable.

40. For SN-14 and SN-18, the permittee must keep records of the hours of operation of the engines that are recorded through the non-resettable hour meters. 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 for each engine. [8 CAR § 41-204 and 40 C.F.R. § 60.4245(b)]

41. If SN-14 operates for the purpose specified in 40 C.F.R. § 60.4243(d)(3)(i), Specific Condition 38.c, the permittee must submit an annual report according to the requirements in § 60.4245 (e)(1) through (3), shown below. [8 CAR § 41-204 and 40 C.F.R. § 60.4245 (e)]

    a. The report must contain the following information: [40 C.F.R. § 60.4245 (e)(1)]

        i. Company name and address where the engine is located. [40 C.F.R. § 60.4245 (e)(1)(i)]

        ii. Date of the report and beginning and ending dates of the reporting period. [40 C.F.R. § 60.4245 (e)(1)(ii)]

        iii. Engine site rating and model year. [40 C.F.R. § 60.4245 (e)(1)(iii)]

        iv. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place. [40 C.F.R. § 60.4245 (e)(1)(iv)]

        v. Hours spent for operation for the purposes specified in § 60.4243(d)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in § 60.4243(d)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine. [40 C.F.R. § 60.4245 (e)(1)(vii)]

    b. 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. [40 C.F.R. § 60.4245 (e)(2)]

    c. 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) (https://cdx.epa.gov/). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 60.4. Beginning on February 26, 2025, submit annual report electronically according to § 60.4245 (g). [40 C.F.R. § 60.4245 (e)(3)]

42. For notifications or reports that are required to be submitted following the procedure specified in § 60.4245 (g), the permittee must submit notifications or reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/). The EPA will make all the information submitted through CEDRI available to the public without further notice to you. Do not use CEDRI to submit information you claim as CBI. Although we do not expect persons to assert a claim of CBI, if you wish to assert a

CBI claim for some of the information in the report or notification, you must submit a complete file in the format specified in Subpart JJJJ, including information claimed to be CBI, to the EPA following the procedures in § 60.4245 (g)(1) and (2). Clearly mark the part or all of the information that you claim to be CBI. Information not marked as CBI may be authorized for public release without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 C.F.R. Part 2. All CBI claims must be asserted at the time of submission. Anything submitted using CEDRI cannot later be claimed CBI. Furthermore, under CAA Section 114(c), emissions data is not entitled to confidential treatment, and the EPA is required to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available. You must submit the same file submitted to the CBI office with the CBI omitted to the EPA via the EPA's CDX as described earlier in this paragraph. [8 CAR § 41-204 and 40 C.F.R. § 60.4245 (g)]

a. The preferred method to receive CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol, or other online file sharing services. Electronic submissions must be transmitted directly to the OAQPS CBI Office at the email address oaqpscbi@epa.gov, and as described in § 60.4245 (g), should include clear CBI markings. ERT files should be flagged to the attention of the Group Leader, Measurement Policy Group; all other files should be flagged to the attention of the Stationary Spark Ignition Internal Combustion Engine Sector Lead. If assistance is needed with submitting large electronic files that exceed the file size limit for email attachments, and if you do not have your own file sharing service, please email oaqpscbi@epa.gov to request a file transfer link. [40 C.F.R. § 60.4245 (g)(1)]

b. If you cannot transmit the file electronically, you may send CBI information through the postal service to the following address: OAQPS Document Control Officer (C404-02), OAQPS, U.S. Environmental Protection Agency, 109 T.W. Alexander Drive, P.O. Box 12055, Research Triangle Park, North Carolina 27711. ERT files should be sent to the attention of the Group Leader, Measurement Policy Group, and all other files should be sent to the attention of the Stationary Spark Ignition Internal Combustion Engine Sector Lead. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope. [40 C.F.R. § 60.4245 (g)(2)]

43. Any records required to be maintained by 40 C.F.R. Subpart JJJJ that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation. [8 CAR § 41-204 and 40 C.F.R. § 60.4245 (j)]

44. For SN-14 and SN-18, the permittee must meet the following general provisions and confidential information provisions: [8 CAR § 41-204 and 40 C.F.R. §60.4246]

a. Table 3 to 40 C.F.R. Part 60, Subpart JJJJ shows which parts of the General Provisions in §§ 60.1 through 60.19 apply to the permittee.

b. The provisions of 40 C.F.R. 1068.10 and 1068.11 apply for engine manufacturers. For others, the general confidential business information (CBI) provisions apply as described in 40 C.F.R. Part 2.

SN-19 and SN-20
Compression Ignition Generators

Source Description

Two certified diesel fired generators are operated at the facility to provide power to the facility during power outages. SN-19 is a 48.8 horsepower, four stroke, lean burn, compression ignition (CI) engine. SN-19 was installed in 2022 and is located in the Fuel Island. The permittee exceeded the non-emergency hour use in 2024; therefore, SN-19 is no longer classified as an emergency engine under 40 C.F.R. Part 60, Subpart IIII.

SN-20 is a 158.1 horsepower, four stroke, lean burn, compression ignition (CI) emergency engine that burns diesel fuel. SN-20 was installed in 2023 and is located in the Fleet Shop. SN-20 is classified as new emergency reciprocating internal combustion engines (RICE) located at an area source of HAPs under 40 C.F.R. Part 63, Subpart ZZZZ and 40 C.F.R. Part 60, Subpart IIII.

Specific Conditions

45. The permittee shall not exceed the emission rates set forth in the following table. Hourly emission limits are based on maximum engine capacity while burning diesel fuel. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 48 through 51. [8 CAR § 41-401 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
19	36.4kW non-Emergency Generator (2022) – Fuel Island	PM_{10}	0.2	0.1
		SO_2	0.1	0.1
		VOC	0.2	0.1
		CO	0.4	0.1
		NO_x	1.6	0.4
20	100 kW Emergency Generator (2023) – Fleet Shop	PM_{10}	0.3	0.1
		SO_2	0.3	0.1
		VOC	0.4	0.1
		CO	0.9	0.3
		NO_x	4.2	1.1

46. The permittee shall not exceed the emission rates set forth in the following table. Hourly emission limits are based on maximum engine capacity while burning diesel fuel. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 48 through 51. [8 CAR § 40-701 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
19	36.4kW non-Emergency Generator (2022) – Fuel Island	PM	0.2	0.1
		Total HAPs	0.01	0.01
20	100 kW Emergency Generator (2023) – Fleet Shop	PM	0.3	0.1
		Total HAPs	0.01	0.01

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

SN	Limit	Regulatory Citation
19	20%	8 CAR § 40-401
20	20%	8 CAR § 40-401

48. The permittee shall not operate SN-19 in excess of 500 total hours per rolling 12-month period in order to demonstrate compliance with the annual emission rate limits. [8 CAR § 41-605, 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]

49. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition 48. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The 12-month rolling totals and each individual month's data shall be maintained on-site, made available to Division of Environmental Quality personnel upon request, and submitted in accordance with General Provision #7.

50. The permittee shall not operate the emergency generator SN-20 in excess of 500 total hours (emergency and non-emergency) per calendar year in order to demonstrate compliance with the annual emission rate limits. Emergency operation in excess of these hours may be allowable but shall be reported and will be evaluated in accordance with 8 CAR § 41-502 and other applicable rules and regulations. [8 CAR § 41-605, 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]

51. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition 50. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The calendar year 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. [8 CAR § 41-605 and 40 C.F.R. § 52 Subpart E]

40 C.F.R. Part 63, Subpart ZZZZ Conditions

52. SN-19 and SN-20 are subject to 40 C.F.R. Part 63, Subpart ZZZZ and shall comply with all applicable requirements of 40 C.F.R. Part 63, Subpart ZZZZ. SN-19 and SN-20 are considered new stationary reciprocating internal combustion engines (RICE) located at an

area source of HAP emissions because construction for both engines commenced after June 12, 2006. Therefore, the permittee must meet the requirements of 40 C.F.R. Part 63, Subpart ZZZZ by meeting the requirements of 40 C.F.R. Part 60, Subpart IIII, for compression ignition (CI) engines, in accordance with 40 C.F.R. §63.6590 (c)(1). No further requirements apply for SN-19 and SN-20 under 40 C.F.R. Part 63, Subpart ZZZZ. [8 CAR § 41-605 and 40 C.F.R. § 63.6590(a)(2)(iii) and (c)]

40 C.F.R. Part 60, Subpart IIII Conditions

53. SN-19 and SN-20 are compression ignition (CI) internal combustion engines (ICE) that commenced construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines. Both engines are subject to 40 C.F.R. Part 60, Subpart IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. The permittee shall comply with all applicable provisions of 40 C.F.R. Part 60, Subpart IIII which include, but are not limited to Specific Conditions 54 through 69. The permittee is responsible for complying with applicable regulations as they appear in the Code of Federal Regulations (C.F.R.). [8 CAR § 41-204 and 40 C.F.R. § 60.4200(a)(2)(i)]

54. SN-19 is a 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder and must comply with the emission standards for new CI engines in 40 C.F.R. § 60.4201 for their 2007 model year and later stationary CI ICE, as applicable. [8 CAR § 41-204 and 40 C.F.R. § 60.4204(b)]

55. For SN-19, Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 C.F.R. §§ 1039.101, 1039.105, and 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power. [8 CAR § 41-204 and 40 C.F.R. § 60.4201 (a)]

§1039.101, Table 1 – Tier 4 Exhaust Emission Standards After the 2014 Model Year, g/kW-hr

Maximum Engine Power	Application	PM	NOx+NMHC	CO
19 < kW < 56	All	0.03	4.7	5.0

56. SN-20 is a 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that is not a fire pump engine. For SN-20, the permittee must comply with the emission standards for new nonroad CI engines in 40 C.F.R. § 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. [8 CAR § 41-204 and 40 C.F.R. § 60.4205(b)]

57. SN-20 must be certified to the emission standards specified in 40 C.F.R. § 60.4202 (a)(2) For engines with a rated power greater than or equal to 37 KW (50 HP), the Tier 2 or Tier 3 emission standards for new nonroad CI engines for the same rated power as described in 40 C.F.R. Part 1039, Appendix I, for all pollutants and the smoke standards as

specified in 40 C.F.R. § 1039.105 beginning in model year 2007. [8 CAR § 41-204 and 40 C.F.R. § 60.4202 (a)]

Part 1039, Appendix I, Table 3 Emission Standards, g/kW-hr

Maximum Engine Power	Starting Year Model	PM	NOx+NMHC	CO
75 < kW < 130	2007	0.3	4.0	5.0

58. For SN-19 and SN-20, the permittee must operate and maintain stationary CI ICE that achieve the emission standards as required in §§ 60.4204 and 60.4205 over the entire life of the engine. [8 CAR § 41-204 and 40 C.F.R. §60.4206]

59. For SN-19 and SN-20, the permittee must use diesel fuel that meets the requirements of 40 C.F.R. § 1090.305 for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [8 CAR § 41-204 and 40 C.F.R. §60.4207(b)]

60. If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine. [8 CAR § 41-204 and 40 C.F.R. § 60.4209(a)]

61. If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in § 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [8 CAR § 41-204 and 40 C.F.R. § 60.4209(b)]

62. For SN-19 and SN-20, the permittee must do all of the following, except as permitted under 40 C.F.R. § 60.4211(g): [8 CAR § 41-204 and 40 C.F.R. § 60.4211(a)]

    a. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; [8 CAR § 41-204 and 40 C.F.R. § 60.4211(a)(1)]

    b. Change only those emission-related settings that are permitted by the manufacturer; and [8 CAR § 41-204 and 40 C.F.R. § 60.4211(a)(2)]

    c. Meet the requirements of 40 C.F.R. §§ 89, 94 and/or 1068, as they apply to you. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(a)(3)]

63. For SN-19 and SN-20, the permittee must comply by purchasing an engine certified to the emission standards in § 60.4204(b), or § 60.4205(b), as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in § 60.4211(g). [8 CAR § 41-204 and 40 C.F.R. § 60.4211(c)]

64. The permittee must operate the emergency stationary ICE according to the requirements in § 60.4211(f)(1) through (3). In order for the engine(s) to be considered an emergency stationary ICE under 40 C.F.R. § 60 Subpart IIII, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50

hours per year, as described in § 60.4211(f)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in § 60.4211(f)(1) through (3), the engine will not be considered an emergency engine under 40 C.F.R. § 60 Subpart IIII and must meet all requirements for non-emergency engines. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(f)]

a. There is no time limit on the use of emergency stationary ICE in emergency situations. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(f)(1)]

b. You may operate your emergency stationary ICE for any combination of the purposes specified in § 60.4211(f)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by § 60.4211(f)(3) counts as part of the 100 hours per calendar year allowed by § 60.4211 (f)(2). [8 CAR § 41-204 and 40 C.F.R. § 60.4211(f)(2)]

    i. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(f)(2)(i)]

c. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in § 60.4211(f)(2). Except as provided in § 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(f)(3)]

    i. The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: [8 CAR § 41-204 and 40 C.F.R. § 60.4211(f)(3)(i)]

        1. The engine is dispatched by the local balancing authority or local transmission and distribution system operator; [8 CAR § 41-204 and 40 C.F.R. § 60.4211(f)(3)(i)(A)]

        2. 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. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(f)(3)(i)(B)]

3. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(f)(3)(i)(C)]
4. The power is provided only to the facility itself or to support the local transmission and distribution system. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(f)(3)(i)(D)]
5. 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. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(f)(3)(i)(E)]

65. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows: [8 CAR § 41-204 and 40 C.F.R. § 60.4211(g)]

a. If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(g)(1)]

b. If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(g)(2)]

66. The requirements for operators and prohibited acts specified in 40 C.F.R. § 1039.665 apply to owners or operators of stationary CI ICE equipped with AECDs for qualified emergency situations as allowed by 40 C.F.R. § 1039.665. [8 CAR § 41-204 and 40 C.F.R. § 60.4211(h)]

67. Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to 40 C.F.R. § 60 Subpart IIII must do so according to § 60.4212 (a) through (e). [8 CAR § 41-204 and 40 C.F.R. § 60.4212]

68. The permittee must meet the following notification, reporting, and recordkeeping requirements: [8 CAR § 41-204 and 40 C.F.R. § 60.4214]

    a. Starting with the model years in the table below, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee must record the time of operation of the engine and the reason the engine was in operation during that time. [40 C.F.R. § 60.4214(b) and Table 5 to 40 C.F.R. § 60 Subpart IIII]

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

    b. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the permittee must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached. [40 C.F.R. § 60.4214(c)]

    c. If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP (SN-20) that operates for the purpose specified in § 60.4211(f)(3)(i), you must submit an annual report according to the requirements in § 60.4214 (d)(1) through (3). [40 C.F.R. § 60.4214(d)]

    d. Beginning on February 26, 2025, within 60 days after the date of completing each performance test required by Subpart IIII, the permittee must submit the results of the performance test required under Subpart IIII following the procedures specified below: [40 C.F.R. § 60.4214 (f)]

        i. Data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert) at the time of the test. Submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), according to § 60.4214 (g). The data must be submitted in a file format generated using the EPA's ERT. Alternatively, you may submit an electronic file consistent with the

extensible markup language (XML) schema listed on the EPA's ERT website. [40 C.F.R. § 60.4214 (f)(1)]

ii. Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test. The results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI according to § 60.4214 (g) of this section. [40 C.F.R. § 60.4214 (f)(2)]

e. If you are required to submit notifications or reports following the procedure specified in § 60.4214 (g), you must submit notifications or reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/). The EPA will make all the information submitted through CEDRI available to the public without further notice to you. Do not use CEDRI to submit information you claim as CBI. Although we do not expect persons to assert a claim of CBI, if you wish to assert a CBI claim for some of the information in the report or notification, you must submit a complete file in the format specified in this subpart, including information claimed to be CBI, to the EPA following the procedures in § 60.4214 (g)(1) and (2). Clearly mark the part or all of the information that you claim to be CBI. Information not marked as CBI may be authorized for public release without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 C.F.R. part 2. All CBI claims must be asserted at the time of submission. Anything submitted using CEDRI cannot later be claimed CBI. Furthermore, under CAA section 114(c), emissions data is not entitled to confidential treatment, and the EPA is required to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available. You must submit the same file submitted to the CBI office with the CBI omitted to the EPA via the EPA's CDX as described earlier in § 60.4214 (g). [40 C.F.R. § 60.4214 (g)]

i. The preferred method to receive CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol, or other online file sharing services. Electronic submissions must be transmitted directly to the OAQPS CBI Office at the email address oaqpscbi@epa.gov, and as described in § 60.4214 (g), should include clear CBI markings. ERT files should be flagged to the attention of the Group Leader, Measurement Policy Group; all other files should be flagged to the attention of the Stationary Compression Ignition Internal Combustion Engine Sector Lead. If assistance is needed with submitting large electronic files that exceed the file size limit for email attachments, and if you do not have your own file sharing service, please email oaqpscbi@epa.gov to request a file transfer link. [40 C.F.R. § 60.4214 (g)(1)]

ii. If you cannot transmit the file electronically, you may send CBI information through the postal service to the following address: OAQPS Document Control Officer (C404-02), OAQPS, U.S. Environmental Protection Agency, 109 T.W. Alexander Drive, P.O. Box 12055, Research Triangle Park, North Carolina 27711. ERT files should be sent to the attention of the Group Leader, Measurement Policy Group, and all other files should be sent to the attention of the Stationary Compression Ignition Internal Combustion Engine Sector Lead. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope. [40 C.F.R. § 60.4214 (g)(2)]

f. If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of EPA system outage for failure to timely comply with that reporting requirement. To assert a claim of EPA system outage, you must meet the requirements outlined in § 60.4214 (h)(1) through (7). [40 C.F.R. § 60.4214 (h)]

g. If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of force majeure for failure to timely comply with that reporting requirement. To assert a claim of force majeure, you must meet the requirements outlined in § 60.4214 (i)(1) through (5). [40 C.F.R. § 60.4214 (i)]

h. Any records required to be maintained by this subpart that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation. [40 C.F.R. § 60.4214 (j)]

69. The permittee must meet the following general provisions and confidential information provisions:

a. Table 8 to 40 C.F.R. Part 60 Subpart IIII shows which parts of the General Provisions in §§ 60.1 through 60.19 apply to you.

b. The provisions of 40 C.F.R. §§ 1068.10 and 1068.11 apply for engine manufacturers. For others, the general confidential business information (CBI) provisions apply as described in 40 C.F.R. Part 2.

[8 CAR § 41-204 and 40 C.F.R. §60.4218]

SECTION V: COMPLIANCE PLAN AND SCHEDULE

City of Little Rock - Solid Waste Facility will come into compliance with all identified regulatory provisions according to the City's proposed timeline within 12 months of permit 1781-AOP-R5 issuance. The facility will examine and analyze future rules and regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

Currently, there are two pending CAOs for the facility. CAO 25-0030 addresses air compliance issues from the November 1, 2024 air inspection and CAO 26-0027 addresses air compliance issues from the August 5, 2025 inspection with EPA.

The City has submitted a plan discussing corrective actions, ongoing compliance measures, and a timeline for construction of a new gas collection control system and the landfill-to-gas energy project through Morrow Energy.

The City needs to submit a GCCS Revised Design Plan for compliance with 40 C.F.R. Part 63, Subpart AAAA and 8 CAR pt. 41, Subpart 16 which references 40 C.F.R. Part 60, Subpart Cf. This plan is due at least 90 days before installation and must be reviewed by the Office of Air permitting staff.

SECTION VI: PLANTWIDE CONDITIONS

1. The permittee shall notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [8 CAR § 41-604, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [8 CAR § 41-310(b) and 40 C.F.R. § 52 Subpart E]

3. The permittee must test any equipment scheduled for testing, unless otherwise stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) operating equipment according to the time frames set forth by the Division of Environmental Quality or within 180 days of permit issuance if no date is specified. The permittee must notify the Division of Environmental Quality of the scheduled date of compliance testing at least fifteen (15) business days in advance of such test. The permittee shall submit the compliance test results to the Division of Environmental Quality within sixty (60) calendar days after completing the testing. [8 CAR § 41-602 and/or 8 CAR § 40-902 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

4. The permittee must provide:

    a. Sampling ports adequate for applicable test methods;
    b. Safe sampling platforms;
    c. Safe access to sampling platforms; and
    d. Utilities for sampling and testing equipment.

    [8 CAR § 41-602 and/or 8 CAR § 40-902 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [8 CAR § 41-203 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

6. This permit subsumes and incorporates all previously issued air permits for this facility. [8 CAR pt. 42 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

7. Unless otherwise specified in the permit, approval to construct any new major stationary source or a major modification subject to 40 C.F.R. § 52.21 shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Division of Environmental Quality may extend the 18-month period upon a satisfactory showing that an extension is justified. [8 CAR § 41-801 et seq. and 40 C.F.R. § 52 Subpart E]

8. The permittee shall accept no more than 8.004 million in-place tons (7.26 million Mg) of municipal solid waste (MSW) at the facility during the lifetime of the landfill. The permittee shall accept no more than 213,598 tons of municipal solid waste per rolling 12-month period. The permittee shall weigh every incoming load of waste accepted by the facility on its truck scale. Within 90 days of issuance of a new solid waste permit that allows an increase in the total capacity of the landfill, the permittee shall submit a modification application to update this permit to reflect the new capacity. [8 CAR § 41-605, 40 C.F.R. § 70.6 and/or Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. § 8-4-304 and § 8-4-311]

9. The permittee shall maintain monthly records to demonstrate compliance with Plantwide Condition 8. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The 12-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 General Provision 7. [8 CAR § 41-605 and 40 C.F.R. Part 52 Subpart E and/or 8 CAR § 40-904 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. § 8-4-304 and § 8-4-311]

Title VI Provisions

10. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 C.F.R. § 82 Subpart E]
    a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to § 82.106.
    b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.
    c. The form of the label bearing the required warning must comply with the requirements pursuant to § 82.110.
    d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.
11. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 C.F.R. § 82 Subpart F]

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158.

c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.

d. Persons disposing of small appliances, MVACs, and MVAC like appliances must comply with record keeping requirements pursuant to § 82.166. ("MVAC like appliance" as defined at § 82.152)

e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

12. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 C.F.R. § 82 Subpart A, Production and Consumption Controls.

13. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 C.F.R. § 82 Subpart B, Servicing of Motor Vehicle Air Conditioners.

    The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC 22 refrigerant.

14. The permittee can switch from any ozone depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 C.F.R. § 82 Subpart G.

Permit Shield

15. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements, as of the date of permit issuance, included in and specifically identified in the following table of this condition. The permit specifically identifies the following as applicable requirements based upon the information submitted by the permittee in an application additional information dated September 2, 2025.

Applicable Regulations

Source No.	Regulation	Description
Facility	40 C.F.R. Part 60, Subpart Cf	Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills
	40 C.F.R. Part 63, Subpart AAAA	NESHAP for Municipal Solid Waste Landfills
	40 C.F.R. Part 61, Subpart M	National Emission Standard for Asbestos
13	40 C.F.R. Part 63, Subpart CCCCCC	NESHAP for Gasoline Dispensing Facilities
14 & 18 - 20	40 C.F.R. Part 63, Subpart ZZZZ	NESHAP for Stationary Reciprocating Internal Combustion Engines
14 & 18	40 C.F.R. Part 63, Subpart JJJJ	NSPS for Stationary Spark Ignition (natural gas) Internal Combustion Engines
19 & 20	40 C.F.R. Part 60, Subpart IIII	NSPS for Stationary Compression Ignition Internal Combustion (diesel) Engines

The permit specifically identifies the following as inapplicable based upon information submitted by the permittee in an application dated September 2, 2025.

Inapplicable Regulations

Source No.	Regulation	Description
Facility	40 C.F.R. Part 60, Subpart Cc	Landfill was constructed after the applicability date
	40 C.F.R. Part 60, Subpart WWW	Landfill is now subject to 8 CAR pt. 41, Subpart 16 and 40 C.F.R. Part 60, Subpart Cf
	40 C.F.R. Part 60, Subpart XXX	Landfill was constructed before the applicability date
13	40 C.F.R. Part 60, Subpart Kb	Capacity of gasoline tank is below regulatory threshold

20 CAR pt. 860 - Asbestos Abatement Rule and 40 C.F.R. § 61, Subpart M Conditions

16. The permittee is subject to and shall comply with 20 CAR § 860-505, Asbestos Abatement Rule, Waste Disposal Sites. [20 CAR § 860-505]

17. The permittee shall sign and date the waste shipping paper upon its receipt and acceptance of the shipment. [20 CAR § 860-505(1)]

18. The permittee of an active waste disposal site that received asbestos-containing waste material from a source covered by 20 CAR pt. 860 shall meet the following requirements. [20 CAR § 860-505 (2)(A) and 40 C.F.R. § 61.154(c) and (d)]

    a. At least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall:

        i. Be covered with at least fifteen centimeters (15 cm), or six inches (6”), of compacted non-asbestos containing material;

        ii.

            A. Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion.

            B. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturers to achieve and maintain dust control.

            C. Other equally effective dust suppression agents may be used upon prior approval by the Director of the Division of Environmental Quality.

            D. For purposes of 20 CAR § 860-505(2)(A)(ii), any used, spent, or other waste oil is not considered a dust suppression agent; or

        iii. Use an alternative emissions control method that has received prior written approval by the director demonstrating the following criteria:

            A. The alternative method will control asbestos emissions equivalent to currently required methods;

            B. The suitability of the alternative method for the intended application;

            C. The alternative method will not violate other laws or rules; and

            D. The alternative method will not result in increased water pollution, land pollution, or occupational hazards.

19. The permittee shall as soon as possible and no longer than thirty (30) calendar days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator. [20 CAR § 860-505(2)(C) and 40 C.F.R. § 61.154(e)(2)]

20. The permittee shall check the waste shipment record that accompanies each asbestos-containing waste shipment that arrives at the waste disposal site for accuracy of the quantity of waste designated. [20 CAR § 860-505(2)(D) and 40 C.F.R. § 61.154(e)(3)]

a. Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, the permittee shall attempt to reconcile the discrepancy with the waste generator.

b.

i. If the discrepancy is not resolved within fifteen (15) calendar days after receiving the waste, the permittee shall immediately report in writing to the:

(1) specific agency responsible for administering the asbestos NESHAP program for the waste generator; and

(2) if different, the specific agency responsible for administering the asbestos NESHAP program for the disposal site.

ii. The permittee shall describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.

21. The permittee shall report in writing to the division official responsible for administering the asbestos program for the waste generator, identified in the waste shipment record, and, if different, the specific agency responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. The permittee shall submit a copy of the waste shipment record along with the report. [20 CAR § 860-505(2)(E) and 40 C.F.R. § 61.154(e)(1)(iv)]

22. The permittee shall furnish upon request and make available during normal business hours for inspection by the division all records required under 20 CAR pt. 860, Subpart 5. [20 CAR § 860-505(2)(F) and 40 C.F.R. § 61.154(i)]

23. The permittee shall retain a copy of all records and reports required by 20 CAR pt. 860, Subpart 5 for at least two (2) years from the date of disposal. [20 CAR § 860-505(3) and 40 C.F.R. § 61.154(e)(4)]

24. The permittee shall maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area. [20 CAR § 860-505(4) and 40 C.F.R. § 61.154(f)]

25. Upon closure of the facility, the permittee shall submit to the division a copy of records of asbestos waste disposal locations and quantities. [20 CAR § 860-505(5) and 40 C.F.R. § 61.154(h)]

26. The permittee shall notify the division in writing at least forty-five (45) calendar days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at the waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the division at least ten (10) working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. The following information shall be included in the notice: [20 CAR § 860-505(6) and 40 C.F.R. § 61.154(j)]

a. Scheduled start and completion dates;

b. Reason or reasons for disturbing the waste;

c. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material (if deemed necessary, the division may require changes in the emission control procedures to be used); and

d. Location of any temporary storage site and the final disposal site.

27. Within sixty (60) calendar days of a site becoming inactive, the permittee shall record a notation, in accordance with state law, on the deed to the facility property and on any other instrument that would normally be examined during a title search. This notation will in perpetuity notify any potential purchaser of the property that: [20 CAR § 860-505(7)]

a. The land has been used for the disposal of asbestos-containing waste material; and

b. The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in 20 CAR § 860-505(4) have been filed with the division.

40 C.F.R. Part 63, Subpart AAAA Conditions

28. The permittee operates an area source MSW landfill that has a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters and has estimated uncontrolled NMOC emissions which exceed 50 megagrams per year as calculated in accordance with 40 C.F.R. § 63.1959. Therefore, the permittee is subject to and shall comply with 40 C.F.R. Part 63, Subpart AAAA – *National Emission Standards for Hazardous Air Pollutants – Municipal Solid Waste Landfills* (Appendix B). The permittee is responsible for complying with the rule as it appears in the Code of Federal Regulations (C.F.R.). [8 CAR § 41-204 and 40 C.F.R. § 63.1935]

29. Beginning no later than September 28, 2021, the collection and control system design plan may include for approval collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions, as provided in 40 C.F.R. § 63.1981 (d)(2). [8 CAR § 41-204 and 40 C.F.R. § 63.1955 (a)]

30. At all times, beginning no later than September 27, 2021, the permittee 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 the permittee to make any further efforts to reduce emissions if the requirements of 40 C.F.R. Part 63, Subpart AAAA have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements 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. [8 CAR § 41-204 and 40 C.F.R. § 63.1955 (c)]

31. The permittee shall operate the collection and control device in accordance with the provisions of 40 C.F.R. §§ 63.1958, 63.1960, and 63.1961. [8 CAR § 41-204 and 40 C.F.R. § 63.1957(a)]

32. The permittee must follow the following requirements for the gas collection and control system used to comply with the provisions of 40 C.F.R. § 63.1957. [8 CAR § 41-204 and 40 C.F.R. § 63.1958]

    a. Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

        i. 5 years or more if active; or

        ii. 2 years or more if closed or at final grade;

    b. Operate the collection system with negative pressure at each wellhead except under the following conditions:

        i. *A fire or increased well temperature.* The permittee must record instances when positive pressure occurs in efforts to avoid a fire. These records must be submitted with the semi-annual reports as provided in § 63.1981(h);

        ii. *Use of a geomembrane or synthetic cover*. The permittee must develop acceptable pressure limits in the design plan;

        iii. *A decommissioned well.* A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes must be approved by the Administrator as specified in § 63.1981(d)(2);

    c. Operate each interior wellhead in the collection system as specified in § 63.1958 (c)(1), as follows:

        i. Operate each interior wellhead in the collection system with a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit).

        ii. The permittee may establish a higher operating temperature value at a particular well. A higher operating value demonstration must be submitted to the Administrator for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria in order to be approved (i.e., neither causing fires nor killing methanogens is acceptable).

    d. Operate the collection system so that the methane concentration is less than 500 parts per million (ppm) above background at the surface of the landfill. To determine if this level is exceeded, the permittee must conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan must be

developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. The permittee must notify the division in accordance with Plantwide Condition 3 of all scheduled testing and re-testing.

i. Beginning no later than September 27, 2021, permittee must:

A. Conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in § 63.1960(d).

B. Conduct surface testing at all cover penetrations. Thus, the permittee must monitor any cover penetrations that are within an area of the landfill where waste has been placed and a gas collection system is required.

C. Determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

e. Beginning no later than September 27, 2021, operate the collection system in accordance to § 63.1955(c) such that all collected gases are vented to a control system designed and operated in compliance with § 63.1959(b)(2)(iii). In the event the collection or control system is not operating:

i. The gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within 1 hour of the collection or control system not operating; and

ii. Efforts to repair the collection or control system must be initiated and completed in a manner such that downtime is kept to a minimum, and the collection and control system must be returned to operation.

f. Operate the control system at all times when the collected gas is routed to the system.

g. If monitoring demonstrates that the operational requirements in paragraphs (b), (c), or (d) of this condition are not met, corrective action must be taken as specified in § 63.1960(a)(3) and (5) or (c). If corrective actions are taken as specified in § 63.1960, the monitored exceedance is not a deviation of the operational requirements in this condition.

33. *Collection system*. An active collection system must: [8 CAR § 41-204 and 40 C.F.R. § 63.1959 (b)(2)(ii)(B)]

a. Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system equipment;

b. Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade;

c. Collect gas at a sufficient extraction rate; and

d. Be designed to minimize off-site migration of subsurface gas.

34. *Control system.* Route all the collected gas to a control system that complies with the requirements in either 40 C.F.R. § 63.1959 (b)(2)(iii)(A), (B), or (C). [8 CAR § 41-204 and 40 C.F.R. § 63.1959 (b)(2)(iii)]

a. A non-enclosed flare designed and operated in accordance with the parameters established in 40 C.F.R. § 63.11(b) except as noted in § 63.1959 (e); or

b. A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3-percent oxygen. The reduction efficiency or ppmv must be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in § 63.1959 (e). The performance test is not required for boilers and process heaters with design heat input capacities equal to or greater than 44 megawatts that burn landfill gas for compliance with Subpart AAAA.

i. If a boiler or process heater is used as the control device, the landfill gas stream must be introduced into the flame zone.

ii. The control device must be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in §§ 63.1961(b) through (e).

c. A treatment system that processes the collected gas for subsequent sale or beneficial use such as fuel for combustion, production of vehicle fuel, production of high-British thermal unit (Btu) gas for pipeline injection, or use as a raw material in a chemical manufacturing process. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to either paragraph (a) or (b) of this condition and as listed in § 63.1959 (b)(2)(iii)(A) or (B).

d. All emissions from any atmospheric vent from the gas treatment system are subject to the requirements of paragraphs (a) or (b) and as listed in § 63.1959 (b)(2)(iii)(A) or (B). For purposes of Subpart AAAA, atmospheric vents located on the condensate storage tank are not part of the treatment system and are exempt from the requirements of § 63.1959 (b)(2)(iii)(A) or (B).

35. After the installation and startup of a collection and control system in compliance with 40 C.F.R. Part 63, Subpart AAAA, the permittee must calculate the NMOC emission rate for

purposes of determining when the system can be capped, removed, or decommissioned as provided in § 63.1957 (b)(3), using Equation 3. [8 CAR § 41-204 and 40 C.F.R. § 63.1959 (c)]

a. The flow rate of landfill gas, QLFG, must be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control system using a gas flow measuring device calibrated according to the provisions of Section 10 of EPA Method 2E of Appendix A-1 of Part 60.

b. The average NMOC concentration, CNMOC, must be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in EPA Method 25 or 25C of Appendix A-7 to Part 60 of 40 C.F.R. The sample location on the common header pipe must be before any condensate removal or other gas refining units. The landfill owner or operator must divide the NMOC concentration from EPA Method 25 or 25C by 6 to convert from CNMOC as carbon to CNMOC as hexane.

c. The permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.

    i. Within 60 days after the date of completing each performance test (as defined in § 63.7), the permittee must submit the results of the performance test, including any associated fuel analyses, according to § 63.1981(l)(1).

36. For the performance test required in 40 C.F.R. § 63.1959(b)(2)(iii)(A) for the flare, the net heating value of the combusted landfill gas as determined in § 63.11(b)(6)(ii) is calculated from the concentration of methane in the landfill gas as measured by EPA Method 3C of Appendix A to 40 C.F.R. Part 60. A minimum of three 30-minute EPA Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. EPA Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under § 63.11(b)(7) of 40 C.F.R. Part 63, Subpart A. Within 60 days after the date of completing each performance test (as defined in § 63.7), the permittee must submit the results of the performance tests, including any associated fuel analyses, required by § 63.1959 (c) or (e) according to § 63.1981(l)(1). Prior to any testing the permittee must notify the Office of Air Quality in accordance with Plantwide Condition 3. [8 CAR § 41-204 and 40 C.F.R. § 63.1959 (e)]

37. For the performance test required in 40 C.F.R. § 63.1959 (b)(2)(iii)(B), EPA Method 25 or 25C (EPA Method 25C of Appendix A-7 to Part 60 of 40 C.F.R. may be used at the inlet only) of Appendix A of 40 C.F.R. Part 60 must be used to determine compliance with the 98 weight-percent efficiency or the 20- ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the Administrator as provided by § 63.1981(d)(2). EPA Method 3, 3A, or 3C of Appendix A-7 to Part 60 must be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8

ppm NMOC as hexane), EPA Method 25A should be used in place of EPA Method 25. EPA Method 18 may be used in conjunction with EPA Method 25A on a limited basis (compound specific, e.g., methane) or EPA Method 3C may be used to determine methane. The methane as carbon should be subtracted from the EPA Method 25A total hydrocarbon value as carbon to give NMOC concentration as carbon. The permittee must divide the NMOC concentration as carbon by 6 to convert from the CNMOC as carbon to CNMOC as hexane. Equation 4 in § 63.1959 (d) must be used to calculate efficiency. The permittee must notify the Office of Air Quality in accordance to Plantwide Condition 3 prior to conducting any performance tests [8 CAR § 41-204 and 40 C.F.R. § 63.1959 (d)]

38. The performance tests required in 40 C.F.R. §§ 63.1959(b)(2)(iii)(A) and (B), must be conducted under such conditions as the Administrator specifies to the permittee based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown unless specified by the Administrator. The permittee may not conduct performance tests during periods of malfunction. The permittee must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. The permittee must notify the Office of Air Quality in accordance to Plantwide Condition 3 prior to conducting any performance tests. [8 CAR § 41-204 and 40 C.F.R. § 63.1959 (f)]

39. *Compliance provisions.* Except as provided in 40 C.F.R. § 63.1981 (d)(2), the specified methods in the following paragraphs and from § 63.1960 (a)(1) through (5) must be used to determine whether the gas collection system is in compliance with § 63.1959 (b)(2)(ii). [8 CAR § 41-204 and 40 C.F.R. § 63.1960 (a)]

    a. For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with § 63.1959 (b)(2)(ii)(C)(1), either Equation 5 or Equation 6 in § 63.1960 must be used. The permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Administrator. The methane generation rate constant (k) and methane generation potential (Lo) kinetic factors should be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42) or other site-specific values demonstrated to be appropriate and approved by the Administrator. If k has been determined as specified in § 63.1959 (a)(4), the value of k determined from the test must be used. A value of no more than 15 years must be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

        i. For sites with unknown year-to-year solid waste acceptance rate use Equation 5 of § 63.1960.

        ii. For sites with known year-to-year solid waste acceptance rate use Equation 6 of § 63.1960.

iii. If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, Equation 5 or Equation 6 of § 63.1960. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using Equation 5 or Equation 6 of § 63.1960 or other methods must be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

b. For the purposes of determining sufficient density of gas collectors for compliance with § 63.1959(b)(2)(ii)(B)(2), the permittee must design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

c. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with § 63.1959(b)(2)(ii)(B)(3), the permittee must measure gauge pressure in the gas collection header applied to each individual well monthly. Any attempted corrective measure must not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. If a positive pressure exists, follow the procedures as specified in § 60.755(a)(3), except:

i. Beginning no later than September 27, 2021, if a positive pressure exists, action must be initiated to correct the exceedance within 5 days, except for the three conditions allowed under § 63.1958(b).

A. If negative pressure cannot be achieved without excess air infiltration within 15 days of the first measurement of positive pressure, the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after positive pressure was first measured. The permittee must keep records according to § 63.1983(e)(3).

B. If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement. The owner or operator must submit the items listed in § 63.1981(h)(7) as part of the next semi-annual report. The owner or operator must keep records according to § 63.1983(e)(4).

C. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit

the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to § 63.1981(j). The permittee must keep records according to § 63.1983(e)(5).

d. To demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1), the permittee must monitor each well monthly for temperature for the purpose of identifying whether excess air infiltration exists. If a well exceeds the operating parameter for temperature as provided in § 63.1958(c)(1), action must be initiated to correct the exceedance within 5 days. Any attempted corrective measure must not cause exceedances of other operational or performance standards.

   i. If a landfill gas temperature less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit) cannot be achieved within 15 days of the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit), the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) was first measured. The permittee must keep records according to § 63.1983(e)(3).

   ii. If corrective actions cannot be fully implemented within 60 days following the temperature measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit). The permittee must submit the items listed in § 63.1981 (h)(7) as part of the next semi-annual report. The permittee must keep records according to § 63.1983(e)(4).

   iii. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to § 63.1981(h)(7) and (j). The permittee must keep records according to § 63.1983(e)(5).

   iv. If a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured, according to the procedures in § 63.1961(a)(5)(vi) is greater than or equal to 1,000 ppmv the corrective action(s) for the wellhead temperature standard (62.8 degrees Celsius or 145 degrees Fahrenheit) must be completed within 15 days.

e. To demonstrate compliance with § 63.1959(b)(2)(ii)(B)(4) through the use of a collection system not conforming to the specifications provided in § 63.1962 must

provide information satisfactory to the Administrator as specified in § 63.1981(d)(3) demonstrating that off-site migration is being controlled.

40. For purposes of compliance with 40 C.F.R. § 63.1958(a), each owner or operator of a controlled landfill must place each well or design component as specified in the approved design plan as provided in § 63.1981(d). Each well must be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of: [8 CAR § 41-204 and 40 C.F.R. § 63.1960 (b)]

    a. 5 years or more if active; or

    b. 2 years or more if closed or at final grade.

41. The following procedures must be used for compliance with the surface methane operational standard as provided in 40 C.F.R. § 63.1958(d). The permittee must notify the Office of Air Quality in accordance to Plantwide Condition 3 prior to conducting quarterly surface methane monitoring. [8 CAR § 41-204 and 40 C.F.R. § 63.1960 (c)]

    a. The permittee must monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in § 63.1960 (d).

    b. The background concentration must be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

    c. Surface emission monitoring must be performed in accordance with section 8.3.1 of EPA Method 21 of Appendix A-7 of 40 C.F.R Part 60, except that the probe inlet must be placed within 5 to 10 centimeters of the ground. Monitoring must be performed during typical meteorological conditions.

    d. Any reading of 500 ppm or more above background at any location must be recorded as a monitored exceedance and the actions specified in § 63.1960 (c)(4)(i) through (v) must be taken. As long as, the specified actions are taken, the exceedance is not a violation of the operational requirements of § 63.1958 (d).

        i. The location of each monitored exceedance must be marked and the location and concentration recorded. The location must be recorded using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

        ii. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 days of detecting the exceedance. *The permittee must notify the Office of Air Quality at least 5 days prior to the scheduled re-monitoring.*

        iii. If the re-monitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be monitored again

within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in § 63.1960 (c)(4)(v) must be taken, and no further monitoring of that location is required until the action specified in § 63.1960 (c)(4)(v) has been taken. *The permittee must notify the Office of Air Quality at least 5 days prior to the scheduled re-monitoring.*

iv. Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in § 63.1960 (c)(4)(ii) or (iii) must be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 ppm above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in § 63.1960 (c)(4)(iii) or (v) must be taken. *The permittee must notify the Office of Air Quality in accordance to Plantwide Condition 3 prior to conducting 1-month surface methane re-monitoring.*

v. For any location where monitored methane concentration equals or exceeds 500 ppm above background three times within a quarterly period, a new well or other collection device must be installed within 120 days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval.

e. The owner or operator must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

42. The permittee shall comply with 40 C.F.R. § 63.1960(c), Plantwide Condition 41, by following the instrumentation specifications and procedures for surface emission monitoring devices as listed below: [8 CAR § 41-204 and 40 C.F.R. § 63.1960 (d)]

a. The portable analyzer must meet the instrument specifications provided in section 6 of EPA Method 21 of Appendix A of 40 C.F.R. Part 60, except that "methane" replaces all references to "VOC".

b. The calibration gas must be methane, diluted to a nominal concentration of 500 ppm in air.

c. To meet the performance evaluation requirements in section 8.1 of EPA Method 21 of Appendix A of 40 C.F.R. Part 60, the instrument evaluation procedures of section 8.1 of EPA Method 21 of Appendix A of Part 60 must be used.

d. The calibration procedures provided in sections 8 and 10 of EPA Method 21 of Appendix A of 40 C.F.R. Part 60 must be followed immediately before commencing a surface monitoring survey.

43. The provisions of 40 C.F.R. Part 63, Subpart AAAA apply at all times, including periods of SSM. During periods of SSM, the permittee must comply with the work practice

requirement specified in § 63.1958(e) in lieu of the compliance provisions in § 63.1960. [8 CAR § 41-204 and 40 C.F.R. § 63.1960 (e)(2)]

44. To comply with 40 C.F.R. § 63.1959(b)(2)(ii)(B) for the active gas collection system, the permit must install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and: [8 CAR § 41-204 and 40 C.F.R. § 63.1961 (a)]

    a. Measure the gauge pressure in the gas collection header on a monthly basis as provided in § 63.1960(a)(3); and

    b. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as follows:

        i. The nitrogen level must be determined using EPA Method 3C of Appendix A-2 to 40 C.F.R. Part 60, unless an alternative test method is established as allowed by § 63.1981(d)(2).

        ii. Unless an alternative test method is established as allowed by § 63.1981(d)(2), the oxygen level must be determined by an oxygen meter using EPA Method 3A or 3C of Appendix A-2 to Part 60 or ASTM D6522-11 (incorporated by reference, see § 63.14). Determine the oxygen level by an oxygen meter using EPA Method 3A or 3C of Appendix A-2 to Part 60 or ASTM D6522-11 (if sample location is prior to combustion) except that:

            A. The span must be set between 10- and 12-percent oxygen;

            B. A data recorder is not required;

            C. Only two calibration gases are required, a zero and span;

            D. A calibration error check is not required; and

            E. The allowable sample bias, zero drift, and calibration drift are ±10 percent.

        iii. A portable gas composition analyzer may be used to monitor the oxygen levels provided:

            A. The analyzer is calibrated; and

            B. The analyzer meets all quality assurance and quality control requirements for EPA Method 3A of Appendix A-2 to 40 C.F.R. Part 60 or ASTM D6522-11 (incorporated by reference, see § 63.14).

    c. To demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1), monitor temperature of the landfill gas on a monthly basis as provided in § 63.1960(a)(4). The temperature measuring device must be calibrated annually using the procedure in Section 10.3 of EPA Method 2 of Appendix A-1 to 40 C.F.R. Part 60. Keep records specified in § 63.1983(e).

d. If the permittee seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1), the permittee must initiate enhanced monitoring at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as follows:

   i. Visual observations for subsurface oxidation events (smoke, smoldering ash, damage to well) within the radius of influence of the well.

   ii. Monitor oxygen concentration as provided in paragraph (b) of this condition;

   iii. Monitor temperature of the landfill gas at the wellhead as provided in paragraph (c) of this condition.

   iv. Monitor temperature of the landfill gas every 10 vertical feet of the well as provided in paragraph (e) of this condition.

   v. Monitor the methane concentration with a methane meter using EPA Method 3C of Appendix A-6 to Part 60, EPA Method 18 of Appendix A-6 to Part 60 of 40 C.F.R., or a portable gas composition analyzer to monitor the methane levels provided that the analyzer is calibrated and the analyzer meets all quality assurance and quality control requirements for EPA Method 3C or EPA Method 18.

   vi. Monitor and determine carbon monoxide concentrations, as follows:

      A. Collect the sample from the wellhead sampling port in a passivated canister or multi-layer foil gas sampling bag (such as the Cali-5-Bond Bag) and analyze that sample using EPA Method 10 of Appendix A-4 to Part 60 of 40 C.F.R., or an equivalent method with a detection limit of at least 100 ppmv of carbon monoxide in high concentrations of methane; or

      B. Collect and analyze the sample from the wellhead using EPA Method 10 of Appendix A-4 to Part 60 to measure carbon monoxide concentrations.

      C. When sampling directly from the wellhead, you must sample for 5 minutes plus twice the response time of the analyzer. These values must be recorded. The five 1-minute averages are then averaged to give you the carbon monoxide reading at the wellhead.

      D. When collecting samples in a passivated canister or multi-layer foil sampling bag, you must sample for the period of time needed to assure that enough sample is collected to provide five (5) consecutive, 1-minute samples during the analysis of the canister or bag contents, but no less than 5 minutes plus twice the response time of the analyzer. The five (5) consecutive, 1-minute averages are then averaged together to give you a carbon monoxide value from the wellhead.

vii. The enhanced monitoring described in this paragraph (d) must begin 7 calendar days after the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit); and

viii. The enhanced monitoring in this paragraph (d) must be conducted on a weekly basis. If four consecutive weekly carbon monoxide readings are under 100 ppmv, then enhanced monitoring may be decreased to monthly. However, if carbon monoxide readings exceed 100 ppmv again, the landfill must return to weekly monitoring.

ix. The enhanced monitoring in this paragraph (d) can be stopped once a higher operating value is approved, at which time the monitoring provisions issued with the higher operating value should be followed, or once the measurement of landfill gas temperature at the wellhead is less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit).

e. For each wellhead with a measurement of landfill gas temperature greater than or equal to 73.9 degrees Celsius (165 degrees Fahrenheit), annually monitor temperature of the landfill gas every 10 vertical feet of the well. This temperature can be monitored either with a removable thermometer or using temporary or permanent thermocouples installed in the well.

45. To comply with 40 C.F.R. § 63.1959(b)(2)(iii) using a non-enclosed flare the permittee must install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment: [8 CAR § 41-204 and 40 C.F.R. § 63.1961 (c)]

a. A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame; and

b. A device that records flow to the flare and bypass of the flare (if applicable). The owner or operator must:

i. Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the control device at least every 15 minutes; and

ii. Secure the 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 must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

46. To demonstrate compliance with the 500-ppm surface methane operational standard in 40 C.F.R. § 63.1958(d), the permittee must monitor surface concentrations of methane according to the procedures in § 63.1960(c) and the instrument specifications in § 63.1960(d). If you are complying with the 500-ppm surface methane operational standard in § 63.1958(d)(2), for location, you must determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters and the coordinates must be in decimal degrees with at least five decimal places. In the semi-annual report in § 63.1981(h), you must report the location of each exceedance of the 500-ppm methane concentration as provided in § 63.1958(d) and the concentration

recorded at each location for which an exceedance was recorded in the previous month. [8 CAR § 41-204 and 40 C.F.R. § 63.1961 (f)]

47. To demonstrate compliance with 40 C.F.R. § 63.1959(b)(2)(iii)(C) using a landfill gas treatment system, the permittee must calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to the treatment system and bypass of the treatment system (if applicable). Beginning no later than September 27, 2021, the permittee must maintain and operate all monitoring systems associated with the treatment system in accordance with the site-specific treatment system monitoring plan required in § 63.1983(b)(5)(ii). The permittee must: [8 CAR § 41-204 and 40 C.F.R. § 63.1961 (g)]

    a. Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the treatment system at least every 15 minutes; and

    b. Secure the 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 must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

48. The monitoring requirements of 40 C.F.R. § 63.1961(a), (b), (c), (d), and (g) apply at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable. Where an owner or operator subject to the provisions of 40 C.F.R. Part 63, Subpart AAAA seeks to demonstrate compliance with the temperature and nitrogen or oxygen operational standards in introductory paragraph § 63.1958(c)(1), (d)(2), and (e)(1), the standards apply at all times. [8 CAR § 41-204 and 40 C.F.R. § 63.1961 (h)]

49. *Specifications for active collection systems.* To comply with 40 C.F.R. § 63.1959(b)(2)(i) must site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Administrator as provided in § 63.1981(d)(2) and (3): [8 CAR § 41-204 and 40 C.F.R. § 63.1962 (a)]

    a. The collection devices within the interior must be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues must be addressed in the design: Depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, resistance to the refuse decomposition heat,

and ability to isolate individual components or sections for repair or troubleshooting without shutting down entire collection system.

b. The sufficient density of gas collection devices determined in paragraph (a) of this condition must address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.

c. The placement of gas collection devices determined in paragraph (a) of this condition must control all gas producing areas, except as provided by § 63.1962 (a)(3)(i) and (ii).

i. Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under § 63.1983 (d). The documentation must provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area and must be provided to the Administrator upon request.

ii. Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material must be documented and provided to the Administrator upon request. A separate NMOC emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the NMOC emissions estimate for the entire landfill.

A. The NMOC emissions from each section proposed for exclusion must be computed using Equation 7 in § 63.1962 (a)(3)(ii).

B. If the owner/operator is proposing to exclude, or cease gas collection and control from, nonproductive physically separated (e.g., separately lined) closed areas that already have gas collection systems, NMOC emissions from each physically separated closed area must be computed using either Equation 3 in § 63.1959 (c) or Equation 7 in § 63.1962 (a)(3)(ii).

iii. The values for k and CNMOC determined in field testing must be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (the distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, Lo and CNMOC provided in §63.1959 (a)(1) or the alternative values from § 63.1959 (a)(5) must be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in § 63.1962 (a)(3)(i).

50. To comply with 40 C.F.R. § 63.1959(b)(2)(ii), the permittee must construct the gas collection devices using the following equipment or procedures: [8 CAR § 41-204 and 40 C.F.R. § 63.1962 (b)]

    a. The landfill gas extraction components must be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: Convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system must extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors must be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations must be situated with regard to the need to prevent excessive air infiltration.

    b. Vertical wells must be placed so as not to endanger underlying liners and must address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors must be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices must be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

    c. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly must include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

51. To comply with 40 C.F.R. § 63.1959(b)(2)(iii), the permittee must convey the landfill gas to a control system in compliance with § 63.1959(b)(2)(iii) through the collection header pipe(s). The gas mover equipment must be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures: [8 CAR § 41-204 and 40 C.F.R. § 63.1962 (c)]

    a. For existing collection systems, the flow data must be used to project the maximum flow rate. If no flow data exists, the procedures in paragraph (b) of this condition and § 63.1962 (c)(2) must be used.

    b. For new collection systems, the maximum flow rate must be in accordance with § 63.1960 (a)(1).

52. Compliance is determined using performance testing, collection system monitoring, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data collected under 40 C.F.R. § 63.1961(b)(1), (c)(1), and (d) are used to demonstrate compliance with the operating standards for control systems. If a deviation occurs, you have failed to meet the control device operating standards

described in 40 C.F.R. Part 63, Subpart AAAA and have deviated from the requirements of the subpart. Compliance with the emissions standards and the operating standards of 40 C.F.R. § 63.1958 is required at all times. [8 CAR § 41-204 and 40 C.F.R. § 63.1964]

53. A deviation is defined in 40 C.F.R. § 63.1990. For the purposes of the landfill monitoring, deviations include the items listed below. [8 CAR § 41-204 and 40 C.F.R. § 63.1965]

    a. A deviation occurs when the control device operating parameter boundaries described in § 63.1983(c)(1) are exceeded.

    b. A deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.

54. 3-hour block averages are calculated according to 40 C.F.R. § 63.1983(b)(2)(i) for average combustion temperature and § 63.1983(c)(1)(i) for 3-hour average combustion temperature for enclosed combustors, except that the data collected during the event listed in paragraph (a) of this condition are not to be included in any average computed under 40 C.F.R. Part 63, Subpart AAAA. [8 CAR § 41-204 and 40 C.F.R. § 63.1975]

    a. Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments.

    b. Startups.

    c. Shutdowns.

    d. Malfunctions.

55. *Reports.* The permittee must submit the reports specified in 40 C.F.R. § 63.1981 and the reports specified in Table 1 to Subpart AAAA. If you have previously submitted a design capacity report, amended design capacity report, initial NMOC emission rate report, initial or revised collection and control system design plan, closure report, equipment removal report, or initial performance test under 40 C.F.R. Part 60, Subpart WWW or an EPA-approved and effective state plan that implements 40 C.F.R. Part 60, Subpart Cf, then that submission constitutes compliance with the design capacity report in § 63.1981(a), the amended design capacity report in § 63.1981(b), the initial NMOC emission rate report in § 63.1981(c), the initial collection and control system design plan in § 63.1981(d), the revised design plan in § 63.1981(e), the closure report in § 63.1981(f), the equipment removal report in § 63.1981(g), and the initial performance test report in § 63.1981(i). You do not need to re-submit the report(s). However, you must include a statement certifying prior submission of the respective report(s) and the date of submittal in the first semi-annual report required in § 63.1981. [8 CAR § 41-204 and 40 C.F.R. § 63.1981]

    a. *Initial design capacity report*. The initial design capacity report must contain the following information.

i. A map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be landfilled according to the permit issued by the state, local, or tribal agency responsible for regulating the landfill.

ii. The maximum design capacity of the landfill. Where the maximum design capacity is specified in the permit issued by the state agency responsible for regulating the landfill, a copy of the permit specifying the maximum design capacity may be submitted as part of the report. If the maximum design capacity of the landfill is not specified in the permit, the maximum design capacity must be calculated using good engineering practices. The calculations must be provided, along with the relevant parameters as part of the report. The landfill may calculate design capacity in either Mg or m^3 for comparison with the exemption values. If the permittee chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million Mg or 2.5 million m^3, the calculation must include a site-specific density, which must be recalculated annually. Any density conversions must be documented and submitted with the design capacity report. The state, tribal, local agency or Administrator may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.

b. *Amended design capacity report*. An amended design capacity report must be submitted to the Administrator providing notification of an increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to meet or exceed 2.5 million Mg and 2.5 million m^3. This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in § 63.1983(f).

c. *NMOC emission rate report*. Each owner or operator subject to the requirements of Subpart AAAA must submit a copy of the latest NMOC emission rate report that was submitted according to § 60.757(b) of this chapter or submit an NMOC emission rate report to the Administrator initially and annually thereafter, except as provided for in paragraph (c)(1)(ii)(A) of this section. The Administrator may request such additional information as may be necessary to verify the reported NMOC emission rate. If you have submitted an annual report under 40 C.F.R. Part 60, subpart WWW; or an EPA-approved and effective state plan that implements 40 C.F.R. Part 60, Subpart Cf, then that submission constitutes compliance with the annual NMOC emission rate report in this paragraph. You do not need to re-submit the annual report for the current year. Beginning no later than September 27, 2021, the report must meet the following requirements:

i. The NMOC emission rate report must contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in § 63.1959(a) or (b), as applicable.

ii. The initial NMOC emission rate report must be submitted no later than 90 days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction on or after March 12, 1996.

iii. NMOC emission rate reports must be submitted annually thereafter, except as provided for in § 63.1981 (c)(1)(ii)(A). Each owner or operator subject to the requirements of Subpart AAAA is exempted from the requirements to submit an NMOC emission rate report, after installing a collection and control system that complies with § 63.1959 (b)(2), during such time as the collection and control system is in operation and in compliance with §§ 63.1958 and 63.1960.

d. *Collection and control system design plan*. Each owner or operator subject to the provisions of § 63.1959(b)(2) must submit a collection and control system design plan to the Administrator for approval according to § 60.757(c) and the schedule in § 60.757(c)(1) and (2). Beginning no later than September 27, 2021, each owner or operator subject to the provisions of § 63.1959(b)(2) must submit a collection and control system design plan to the Administrator according to § 63.1981(d)(1) through (6). The collection and control system design plan must be prepared and approved by a professional engineer.

i. The collection and control system as described in the design plan must meet the design requirements in § 63.1959(b)(2).

ii. The collection and control system design plan must include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of §§ 63.1957 through 63.1983 proposed by the owner or operator.

iii. The collection and control system design plan must either conform with specifications for active collection systems in § 63.1962 or include a demonstration to the Administrator's satisfaction of the sufficiency of the alternative provisions to § 63.1962.

iv. Each owner or operator of an MSW landfill affected by Subpart AAAA must submit a collection and control system design plan to the Administrator for approval within 1 year of becoming subject to the subpart.

v. The landfill owner or operator must notify the Administrator that the design plan is completed and submit a copy of the plan's signature page. The Administrator has 90 days to decide whether the design plan should be submitted for review. If the Administrator chooses to review the plan, the approval process continues as described in § 63.1981(d)(6). In the event that the design plan is required to be modified to obtain approval, the owner or operator must take any steps necessary to conform any prior actions to the approved design plan and any failure to do so could result in an enforcement action.

vi. Upon receipt of an initial or revised design plan, the Administrator must review the information submitted under § 63.1981(d)(1) through (3) and either approve it, disapprove it, or request that additional information be submitted. Because of the many site-specific factors involved with landfill gas system design, alternative systems may be necessary. A wide variety of system designs are possible, such as vertical wells, combination horizontal and vertical collection systems, or horizontal trenches only, leachate collection components, and passive systems.

e. *Revised design plan*. Beginning no later than September 27, 2021, the owner or operator who has already been required to submit a design plan under § 63.1981 (d) must submit a revised design plan to the Administrator for approval as follows:

i. At least 90 days before expanding operations to an area not covered by the previously approved design plan.

ii. Prior to installing or expanding the gas collection system in a way that is not consistent with the design plan that was submitted to the Administrator according to § 63.1981(d).

f. *Closure report*. Each owner or operator of a controlled landfill must submit a closure report to the Administrator within 30 days of waste acceptance cessation. The Administrator may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 C.F.R. § 258.60. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under § 63.9(b) of subpart A.

g. *Equipment removal report*. Each owner or operator of a controlled landfill must submit an equipment removal report to the Administrator 30 days prior to removal or cessation of operation of the control equipment. The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in § 63.1957(b) have been met. Beginning no later than September 27, 2021, the equipment removal report must contain all of the following items:

i. A copy of the closure report submitted in accordance with § 63.1981 (f);

ii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired, or information that demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's Central Data Exchange (CDX); and

iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 Mg or greater of

NMOC per year. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports.

h. *Semi-annual report*. The owner or operator of a landfill seeking to comply with § 63.1959(b)(2) using an active collection system designed in accordance with § 63.1959(b)(2)(ii) must submit to the Administrator semi-annual reports. Beginning no later than September 27, 2021, you must submit the report, following the procedure specified in § 63.1981 (l). The initial report must be submitted within 180 days of installation and startup of the collection and control system and must include the initial performance test report required under § 63.7 of subpart A, as applicable. In the initial report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX. For enclosed combustion devices and flares, reportable exceedances are defined under § 63.1983(c). The semi-annual reports must contain the information in § 63.1981 (h)(1) through (8).

i. Number of times that applicable parameters monitored under § 63.1958(b), (c), and (d) were exceeded and when the gas collection and control system was not operating under § 63.1958(e), including periods of SSM. For each instance, report the date, time, and duration of each exceedance.

A. To demonstrate compliance with the temperature and nitrogen or oxygen operational standards in introductory paragraph § 63.1958(c), provide a statement of the wellhead operational standard for temperature and oxygen you are complying with for the period covered by the report. Indicate the number of times each of those parameters monitored under § 63.1961(a)(3) were exceeded. For each instance, report the date, time, and duration of each exceedance.

B. To demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1), provide a statement of the wellhead operational standard for temperature and oxygen you are complying with for the period covered by the report. Indicate the number of times each of those parameters monitored under § 63.1961(a)(4) were exceeded. For each instance, report the date, time, and duration of each exceedance.

C. The number of times the parameters for the site-specific treatment system in § 63.1961(g) were exceeded.

ii. Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under § 63.1961.

iii. Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.

iv. All periods when the collection system was not operating.

v. The location of each exceedance of the 500-ppm methane concentration as provided in § 63.1958(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. For location, you record the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

vi. The date of installation and the location of each well or collection system expansion added pursuant to § 63.1960(a)(3) and (4), (b), and (c)(4).

vii. For any corrective action analysis for which corrective actions are required in § 63.1960(a)(3)(i) or (a)(5) and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

viii. Each owner or operator required to conduct enhanced monitoring in §§ 63.1961(a)(5) and (6) must include the results of all monitoring activities conducted during the period.

A. For each monitoring point, report the date, time, and well identifier along with the value and units of measure for oxygen, temperature (wellhead and downwell), methane, and carbon monoxide.

B. Include a summary trend analysis for each well subject to the enhanced monitoring requirements to chart the weekly readings over time for oxygen, wellhead temperature, methane, and weekly or monthly readings over time, as applicable for carbon monoxide.

C. Include the date, time, staff person name, and description of findings for each visual observation for subsurface oxidation event.

i. *Initial performance test report*. Each owner or operator seeking to comply with § 63.1959(b)(2)(iii) must include the following information with the initial performance test report required under § 63.7 of Subpart A:

i. A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas

extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;

ii. The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;

iii. The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material;

iv. The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area;

v. The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; and

vi. The provisions for the control of off-site migration.

j. *Corrective action and the corresponding timeline.* The owner or operator must submit information regarding corrective actions according to § 63.1981 (j)(1) and (2).

i. For corrective action that is required according to § 63.1960(a)(3) or (4) and is not completed within 60 days after the initial exceedance, you must submit a notification to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance.

ii. For corrective action that is required according to § 63.1960 (a)(3) or (4) and is expected to take longer than 120 days after the initial exceedance to complete, you must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above unless a higher operating temperature value has been approved by the Administrator for the well under Subpart AAAA or an EPA approved and effective state plan that implements 40 C.F.R. Part 60, Subpart Cf. The Administrator must approve the plan for corrective action and the corresponding timeline.

k. *24-hour high temperature report*. Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1) and a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide

concentration measured is greater than or equal to 1,000 ppmv, then you must report the date, time, well identifier, temperature and carbon monoxide reading via email to the Administrator within 24 hours of the measurement unless a higher operating temperature value has been approved by the Administrator for the well under Subpart AAAA or an EPA approved and effective state plan that implements 40 C.F.R. Part 60, Subpart Cf.

l. *Electronic reporting.* The permittee must submit reports electronically according to § 63.1981 (l)(1) and (2).

i. Within 60 days after the date of completing each performance test required by Subpart AAAA, you must submit the results of the performance test following the procedures specified in § 63.1981 (l)(1)(i) through (iii).

ii. Each owner or operator required to submit reports following the procedure specified in this paragraph must submit reports to the EPA via CEDRI. CEDRI can be accessed through the EPA's CDX. The owner or operator must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri). Once the spreadsheet template upload/forms for the reports have been available in CEDRI for 90 days, the owner or operator must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted. The NMOC emission rate reports, semi-annual reports, and bioreactor 40-percent moisture reports should be electronically reported as a spreadsheet template upload/form to CEDRI. If the reporting forms specific to this subpart are not available in CEDRI at the time that the reports are due, the owner or operator must submit the reports to the Administrator at the appropriate address listed in § 63.13 of subpart A.

m. *Claims of EPA system outage.* The permittee may assert a claim of EPA system outage for failure to comply timely with the reporting requirement. To assert a claim of EPA system outage, you must meet the requirements of § 63.1981(m).

n. *Claims of force majeure*. The permittee may assert a claim of force majeure for failure to comply timely with the reporting requirement. To assert a claim of force majeure, you must meet the requirements of § 63.1981(n).

56. The permittee must keep records as specified in 40 C.F.R. Part 63, Subpart AAAA. The permittee must also keep records as specified in the general provisions of 40 C.F.R. Part 63 as shown in Table 1 to Subpart AAAA. [8 CAR § 41-204 and 40 C.F.R. § 63.1983]

a. Except as provided in § 63.1981(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report that triggered § 63.1959 (b), the current amount of solid waste in-place, and the year-

by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

b. Except as provided in § 63.1981(d)(2), the permittee must keep up-to-date, readily accessible records for the life of the control system equipment of the data listed in the following paragraphs and in § 63.1983 (b)(1) through (5) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. Records of the control device vendor specifications must be maintained until removal.

i. To demonstrate compliance with § 63.1959(b)(2)(ii):

A. The maximum expected gas generation flow rate as calculated in § 63.1960(a)(1).

B. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in § 63.1962(a)(1) and (2).

ii. To demonstrate compliance with § 63.1959(b)(2)(iii)(A) through use of a non-enclosed flare, the flare type (i.e., steam-assisted, air-assisted, or nonassisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in § 63.11; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame or the flare flame is absent.

iii. To demonstrate compliance with § 63.1959(b)(2)(iii)(C) through use of a landfill gas treatment system:

A. *Bypass records*. Records of the flow of landfill gas to, and bypass of, the treatment system.

B. *Site-specific treatment monitoring plan.* The permittee must prepare a site-specific treatment monitoring plan to include:

1. Monitoring records of parameters that are identified in the treatment system monitoring plan and that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. At a minimum, records should include records of filtration, de-watering, and compression parameters that ensure the treatment system is operating properly for each intended end use of the treated landfill gas.

2. Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.

3. Documentation of the monitoring methods and ranges, along with justification for their use.
4. List of responsible staff (by job title) for data collection.
5. Processes and methods used to collect the necessary data.
6. Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems (CMS).

c. Except as provided in § 63.1981(d)(2), the permittee must keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in § 63.1961 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

i. The permittee must keep up-to-date, readily accessible continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under § 63.1961(b)(2)(ii), (c)(2)(ii), and (g)(2).

ii. For the non-enclosed flare, the permittee must keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under § 63.1961(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

iii. The permittee must keep records of periods when the collection system or control device is not operating.

iv. To demonstrate compliance with the operational standard in § 63.1958(e)(1), the date, time, and duration of each startup and/or shutdown period, recording the periods when the affected source was subject to the standard applicable to startup and shutdown.

v. To demonstrate compliance with the operational standard in § 63.1958(e)(1), in the event that an affected unit fails to meet an applicable standard, record the information below in this paragraph:

A. For each failure record the date, time and duration of each failure and the cause of such events (including unknown cause, if applicable).

B. For each failure to meet an applicable standard; record and retain a list of the affected sources or equipment.

C. Record actions taken to minimize emissions in accordance with the general duty of § 63.1955(c) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

vi. Beginning no later than September 27, 2021, in lieu of the requirements specified in § 63.8(d)(3) of subpart A the permittee must keep the written procedures required by § 63.8(d)(2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of Part 63, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, you must keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under § 63.8(d)(2).

d. Except as provided in § 63.1981(d)(2), the permittee must keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector.

i. The permittee must keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under § 63.1960(b).

ii. The permittee must keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in § 63.1962(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in § 63.1962(a)(3)(ii).

e. Except as provided in § 63.1981(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible records of the following:

i. All collection and control system exceedances of the operational standards in § 63.1958, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

ii. The permittee must keep records of each wellhead temperature monitoring value of greater than 55 degrees Celsius (131 degrees Fahrenheit), each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent, except:

A. To demonstrate compliance with the compliance provisions for wellhead temperature in § 63.1958(c)(1), the records of each wellhead temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above instead of values greater than 55 degrees Celsius (131 degrees Fahrenheit).

B. If required to conduct the enhanced monitoring provisions in § 63.1961(a)(5), the permittee must also keep records of all enhanced monitoring activities.

C. If required to submit the 24-hour high temperature report in § 63.1981(k), the permittee must also keep a record of the email transmission.

iii. For any root cause analysis for which corrective actions are required in § 63.1960(a)(3)(i)(A) or (a)(4)(i)(A), keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed.

iv. For any root cause analysis for which corrective actions are required in § 63.1960(a)(3)(i)(B) or (a)(4)(i)(B), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

v. For any root cause analysis for which corrective actions are required in § 63.1960(a)(3)(i)(C) or (a)(4)(i)(C), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the Administrator.

f. Except as provided in § 63.1981(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible records of all collection and control system monitoring data for parameters measured in § 63.1961(a)(1) through (6).

g. To demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1), the permittee must keep the following records.

i. Records of the landfill gas temperature on a monthly basis as monitored in § 63.1960(a)(4).

ii. Records of enhanced monitoring data at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as gathered in § 63.1961(a)(5) and (6).

iii. Any records required to be maintained by Subpart AAAA that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.

8 CAR pt. 41, Subpart 16 -111(d) Requirements for Landfills and 40 C.F.R. Part 60, Subpart Cf

57. The permittee is subject to and shall comply with 8 CAR pt. 41 Rules of the Arkansas Plan of Implementation for Air Pollution Control, Subpart 16: 111(d) Requirements for

Landfills. Subpart 16 establishes standards of performance, monitoring, recordkeeping, and reporting requirements for the control of designated pollutants from municipal solid waste landfills pursuant to 40 C.F.R. Part 60, Subpart Cf. Requirements under 8 CAR pt. 41, Subpart 16 shall not affect the permittee's requirements under the Solid Waste Management Rules, 8 CAR pt. 60. The City of Little Rock – Solid Waste Facility accepted waste after November 8, 1987, has the capacity for future deposition, and commenced construction before July 17, 2014. The City of Little Rock began operating and gas collection and control system under the requirements of 40 C.F.R. Part 60, Subpart WWW. [8 CAR §§ 41.1601 and 41.1603]

58. Physical or operational changes made to a municipal solid waste landfill subject to this 8 CAR pt. 41, Subpart 16 are not considered a modification or reconstruction under Subpart 16 if the changes are made solely to comply with Subpart 16. [8 CAR § 41.1604(d)]

59. The permittee shall install, maintain, and operate a collection and control system meeting the requirements specified in 40 C.F.R. § 60.33f(b)(1) through (3) and 40 C.F.R. § 60.33f(c)(1) through (4), except as provided in 40 C.F.R. § 60.24, within thirty (30) months after: [8 CAR § 41.1608(a)]

    a. The first NMOC emission rate report for a landfill in which the NMOC emission rate equals or exceeds thirty-four (34) megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the NMOC emission rate is less than thirty-four (34) megagrams per year;

    b. The first NMOC emission rate report in the closed landfill subcategory in which the NMOC emission rate equals or exceeds fifty (50) megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the NMOC emission rate is less than fifty (50) megagrams per year; or

    c. The most recent NMOC emission rate report in which the NMOC emission rate equals or exceeds thirty-four megagrams per year based on Tier 2, if the Tier 4 surface emission monitoring shows a surface methane emission concentration of five hundred (500) parts per million methane or greater.

60. The permittee shall ensure that each collection system installed to comply with 8 CAR pt. 41, Subpart 16 shall meet the requirements specified in: [8 CAR § 41.1608(b)]

    a. 40 C.F.R. § 60.33f(b)(2) and 40 C.F.R. § 60.40f(a) through (c) for active collection systems; or

    b. 40 C.F.R. § 60.33f(b)(3) for passive collection systems.

61. The permittee shall ensure that each control system installed to comply with 8 CAR pt. 41, Subpart 16 shall meet the requirements specified in 40 C.F.R. § 60.33f(c)(1) through (4) except as provided in 40 C.F.R. § 60.24. [8 CAR § 41.1608(c)]

62. A collection and control system required under 8 CAR pt. 41, Subpart 16 may be capped, removed, or decommissioned if the criteria specified in 40 C.F.R. § 60.33f(f)(1) through (4) are met. [8 CAR § 41.1608(d)]

63. The permittee subject to the requirement to install and operate a gas emission collection and control system pursuant to 8 CAR pt. 41, Subpart 16 shall complete planning, awarding, of contracts, installing, and starting up municipal solid waste landfill gas emission collection and control equipment within thirty (30) months after the date an NMOC emission rate report shows: [8 CAR § 41.1609(a)]

    a. NMOC emissions equal to or exceeding thirty-four (34) megagrams per year for active landfills;

    b. NMOC emissions equal to or exceeding fifty (50) megagrams per year for closed landfills; or

    c. A methane surface emission concentration equal to or exceeding five hundred (500) parts per million based on Tier 4 surface emissions monitoring.

64. The permittee subject to the requirement to install and operate a gas emission collection and control system pursuant to 8 CAR pt. 41, Subpart 16 shall comply with the increments of progress listed in Table 41.16.1. [8 CAR § 41.1609(b)]

Table 41.16.1 Increments of Progress

Increment	Date if Using Tiers 1, 2, or 3	Date if Using Tier 4
Increment 1: Submit final collection and control system design plan to the Division in accordance with 8 CAR § 41.1610	Twelve (12) months after initial NMOC emission rate report or the first annual emission rate report showing NMOC emissions equal to or exceeding thirty-four (34) megagrams per year for active landfills or NMOC emissions equal to or exceeding fifty (50) megagrams for closed landfills	Twelve (12) months after the first measured concentration of methane of five hundred (500) parts per million or greater from the surface of the landfill
Increment 2: Submit notice to the Division that on-site construction of collection and control system has begun	Twenty-four (24) months after initial NMOC emission rate report or the first annual emission rate report showing NMOC emissions equal to or exceeding thirty-four (34) megagrams per year for active landfills or NMOC emissions equal to or exceeding fifty (50) megagrams for closed landfills	Twenty-four (24) months after the first measured concentration of methane of five hundred (500) parts per million or greater from the surface of the landfill
Increment 3: Submit notice to the Division that on-site construction of collection and control system is complete	Thirty (30) months after initial NMOC emission rate report or the first annual emission rate report showing NMOC emissions equal to or exceeding to thirty-four (34) megagrams per year for active landfills or NMOC emissions equal to or exceeding fifty (50) megagrams for closed landfills	Thirty (30) months after the first measured concentration of methane of five hundred (500) parts per million or greater from the surface of the landfill
Increment 4: Final compliance with 8 CAR § 41.1608	Thirty (30) months after initial NMOC emission rate report or the first annual emission rate report showing NMOC emissions equal to or exceeding to thirty-four (34) megagrams per year for active	Thirty (30) months after the first measured concentration of methane of five hundred (500) parts

Table 41.16.1 Increments of Progress		
Increment	**Date if Using Tiers 1, 2, or 3**	**Date if Using Tier 4**
	landfills or NMOC emissions equal to or exceeding fifty (50) megagrams for closed landfills	per million or greater from the surface of the landfill

65. The permittee shall submit to the Division a site-specific design plan for each gas collection and control system required under 8 CAR pt. 41, Subpart 16. The collection and control system design plan shall be prepared and approved by a professional engineer and shall comply with the requirements specified in 40 C.F.R. § 60.38f(d)(1) - (7). [8 CAR § 41.1610(a)]

66. The permittee must submit a revised design plan to the division as specified in 40 C.F.R. § 60.38f(e)(1) and (2) and listed below: [8 CAR § 41.1610(b) and 40 C.F.R. § 60.38f(e)]

    a. At least 90 days before expanding operations to an area not covered by the previously approved design plan. [40 C.F.R. § 60.38f(e)(1)]

    b. Prior to installing or expanding the gas collection system in a way that is not consistent with the design plan that was submitted to the Administrator according to 40 C.F.R. § 60.38f (d). [40 C.F.R. § 60.38f(e)(2)]

67. Upon receipt of a revised design plan, the Division shall review the information submitted and either approve it, disapprove it, or request that additional information be submitted. If the Division does not approve or disapprove the design plan, or does not request that additional information be submitted, within ninety (90) days of receipt, then the permittee may continue with implementation of the design plan at their own risk. [8 CAR § 41.1610(c)]

68. If the permittee chooses to demonstrate compliance with the emission control requirements of 8 CAR pt. 41, Subpart 16 using a treatment system as defined in 40 C.F.R. § 60.41f, then the permittee shall prepare a site-specific treatment system monitoring plan that meets the requirements specified in 40 C.F.R. § 60.39f(b)(5) and the following plantwide condition. [8 CAR § 41.1610(d)]

69. For the permittee to demonstrate compliance with § 60.33f(c)(3) through use of a landfill gas treatment system as allowed in Plantwide Condition 68, the permittee must maintain:[8 CAR § 41.1610(d) and 40 C.F.R. § 60.39f(b)(5)]

    a. *Bypass records.* Records of the flow of landfill gas to, and bypass of, the treatment system.

    b. *Site-specific treatment monitoring plan*, to include:

        i. Monitoring records of parameters that are identified in the treatment system monitoring plan and that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. At a minimum, records should include records of filtration, de-watering, and compression parameters that ensure the treatment system is operating properly for each intended end use of the treated landfill gas.

ii. Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.

iii. Documentation of the monitoring methods and ranges, along with justification for their use.

iv. Identify who is responsible (by job title) for data collection.

v. Processes and methods used to collect the necessary data.

vi. Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems.

70. The permittee shall meet the operating, compliance, and monitoring requirements of Subpart 16 by: [8 CAR § 41.1611(a)]

a. Compliance with the requirements of 40 C.F.R. § 60.34f(a) through (g) [Plantwide Condition 71], 40 C.F.R. § 60.36f(a) through (e) [Plantwide Condition 72], and 40 C.F.R. § 60.37f(a) through (h) [Plantwide Condition 73]; or

b. Compliance with the requirements of 40 C.F.R. § 63.1958, 40 C.F.R. § 63.1960, and 40 C.F.R. § 63.1961.

71. **Once the permittee begins to comply with the provisions of 40 C.F.R. Part 63, Subpart AAAA, § 63.1958, the permittee must continue to operate the collection and control device according to those provisions and cannot return to the provisions of this condition.** To demonstrate compliance with the provisions 40 C.F.R. Part 60, Subpart Cf, § 60.33f(b) and (c), the permittee must: [8 CAR §41.1611(a) and 40 C.F.R. § 60.34f(a) through (g)]

a. Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

i. Five (5) years or more if active; or

ii. Two (2) years or more if closed or at final grade.

b. Operate the collection system with negative pressure at each wellhead except under the following conditions:

i. A fire or increased well temperature. The owner or operator must record instances when positive pressure occurs in efforts to avoid a fire. These records must be submitted with the annual reports as provided in § 60.38f(h)(1).

ii. Use of a geomembrane or synthetic cover. The owner or operator must develop acceptable pressure limits in the design plan.

iii. A decommissioned well. A well may experience a static positive pressure after shutdown to accommodate for declining flows. All design changes must be approved by the Administrator as specified in § 60.38f(d).

c. Operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit). The permittee may establish a higher operating temperature value at a particular well. A higher operating value demonstration must be submitted to the Administrator for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria in order to be approved (i.e., neither causing fires nor killing methanogens is acceptable).

d. Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the permittee must conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in § 60.36(d). The permittee must conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover and all cover penetrations. Thus, the owner or operator must monitor any openings that are within an area of the landfill where waste has been placed and a gas collection system is required. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan must be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

e. Operate the system such that all collected gases are vented to a control system designed and operated in compliance with § 60.33f(c). In the event the collection or control system is not operating, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within 1 hour of the collection or control system not operating.

f. Operate the control system at all times when the collected gas is routed to the system.

g. If monitoring demonstrates that the operational requirements in paragraph (b), (c), or (d) of this condition are not met, corrective action must be taken as specified in § 60.36f(a)(3) and (5) or (c). If corrective actions are taken as specified in § 60.36f, the monitored exceedance is not a violation of the operational requirements in this section.

72. **Once the permittee begins to comply with the provisions of 40 C.F.R. Part 63, Subpart AAAA, § 63.1960, the permittee must continue to operate the collection and control device according to those provisions and cannot return to the provisions of this condition.** [8 CAR §41.1611(a) and 40 C.F.R. § 60.36f(a) through (e)]

a. Except as provided in § 60.38f(d)(2), the specified methods in § 60.36f(a)(1) through (6) must be used to determine whether the gas collection system is in compliance with § 60.33f(b)(2).

i. For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with § 60.33f(b)(2)(i), either Equation 5 in § 60.36f(a)(1)(i) or Equation 6 in § 60.36f(a)(1)(ii) must be used. The methane generation rate constant (k) and methane generation potential (Lo) kinetic factors should be those published in the most recent AP-42 or other site-specific values demonstrated to be appropriate and approved by the Administrator. If k has been determined as specified in § 60.35f(a)(4), the value of k determined from the test must be used. A value of no more than 15 years must be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

A. For sites with unknown year-to-year solid waste acceptance rate use Equation 5.

B. For sites with known year-to-year solid waste acceptance rate use Equation 6.

C. If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, Equation 5 or Equation 6 in § 60.36f(a)(1)(i) or (ii). If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using Equation 5 or Equation 6 or other methods must be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

ii. For the purposes of determining sufficient density of gas collectors for compliance with § 60.33f(b)(2)(ii), the permittee must design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

iii. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with § 60.33f(b)(2)(iii), the permittee must measure gauge pressure in the gas collection header applied to each individual well monthly. If a positive pressure exists, action must be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under § 60.34f(b). Any attempted corrective measure must not cause exceedances of other operational or performance standards.

A. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement of positive pressure, the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but not later than 60 days after positive pressure was first measured. The permittee must keep records according to § 60.39f(e)(3).

B. If corrective actions cannot be fully implemented within 60 days following the positive pressure or elevated temperature measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit) or positive pressure. The permittee must submit the items listed in § 60.38f(h)(7) as part of the next annual report. The permittee must keep records according to § 60.39f(e)(4).

C. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to § 60.38f(h)(7) and (k). The permittee must keep records according to § 60.39f(e)(5).

D. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee must monitor each well monthly for temperature as provided in § 60.34f(c). If a well exceeds the operating parameter for temperature, action must be initiated to correct the exceedance within 5 calendar days. Any attempted corrective measure must not cause exceedances of other operational or performance standards.

    1. If a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit) cannot be achieved within 15 calendar days of the first measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit), the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit) was first measured. The permittee must keep records according to § 60.39f(e)(3).

    2. If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the permittee

must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit). The permittee must submit the items listed in § 60.38f(h)(7) as part of the next annual report. The permittee must keep records according to § 60.39f(e)(4).

3. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to § 60.38f(h)(7) and (k). The permittee must keep records according to § 60.39f(e)(5).

iv. A permittee seeking to demonstrate compliance with § 60.33f(b)(2)(iv) through the use of a collection system not conforming to the specifications provided in § 60.40f must provide information satisfactory to the Administrator as specified in § 60.38f(d)(3) demonstrating that off-site migration is being controlled.

b. For purposes of compliance with § 60.34f(a), the permittee must place each well or design component as specified in the approved design plan as provided in § 60.38f(d). Each well must be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of:

i. Five (5) years or more if active; or

ii. Two (2) years or more if closed or at final grade.

c. The following procedures must be used for compliance with the surface methane operational standard as provided in § 60.34f(d):

i. After installation and startup of the gas collection system, the permittee must monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in § 60.36f(d).

ii. The background concentration must be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

iii. Surface emission monitoring must be performed in accordance with section 8.3.1 of Method 21 of Appendix A of 40 C.F.R. Part 60, except that the probe inlet must be placed within 5 to 10 centimeters of the

ground. Monitoring must be performed during typical meteorological conditions.

iv. Any reading of 500 parts per million or more above background at any location must be recorded as a monitored exceedance and the actions specified in § 60.36f(c)(4)(i) through (v) [listed below] must be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of § 60.34f(d).

A. The location of each monitored exceedance must be marked and the location and concentration recorded. For location, the permittee must determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

B. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 calendar days of detecting the exceedance.

C. If the re-monitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in § 60.36f(c)(4)(v) must be taken, and no further monitoring of that location is required until the action specified in § 60.36f(c)(4)(v) has been taken.

D. Any location that initially showed an exceedance but has a methane concentration less than 500 parts per million methane above background at the 10-day re-monitoring specified in § 60.36f(c)(4)(ii) or (iii) must be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in § 60.36f(c)(4)(iii) or (v) must be taken.

E. For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device must be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval.

v. The permittee must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

d. To demonstrate compliance with the provisions in § 60.36f(c) or § 60.35f(a)(6), the permittee must comply with the following instrumentation specifications and procedures for surface emission monitoring devices:

i. The portable analyzer must meet the instrument specifications provided in section 6 of Method 21 of Appendix A of 40 C.F.R. Part 60, except that "methane" replaces all references to "VOC".

ii. The calibration gas must be methane, diluted to a nominal concentration of 500 parts per million in air.

iii. To meet the performance evaluation requirements in section 8.1 of Method 21 of Appendix A of 40 C.F.R. Part 60, the instrument evaluation procedures of section 8.1 of Method 21 must be used.

iv. The calibration procedures provided in sections 8 and 10 of Method 21 of Appendix A of 40 C.F.R. Part 60 must be followed immediately before commencing a surface monitoring survey.

e. The provisions of 40 C.F.R. Part 60, Subpart Cf apply at all times, including periods of startup, shutdown, or malfunction. During periods of startup, shutdown, and malfunction, the permittee must comply with the work practice specified in § 60.34f(e) in lieu of the compliance provisions in § 60.36f.

73. **Once the permittee begins to comply with the provisions of 40 C.F.R. Part 63, Subpart AAAA, § 63.1961, the permittee must continue to operate the collection and control device according to those provisions and cannot return to the provisions of this condition.** [8 CAR §41.1611(a) and 40 C.F.R. § 60.37f(a) through (h)]

a. To comply with § 60.33f(b)(2) for an active gas collection system the permittee must install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and:

i. Measure the gauge pressure in the gas collection header on a monthly basis as provided in § 60.36f(a)(3); and

ii. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as follows:

A. The nitrogen level must be determined using Method 3C, unless an alternative test method is established as allowed by § 60.38f(d)(2).

B. Unless an alternative test method is established as allowed by § 60.38f(d)(2), the oxygen level must be determined by an oxygen meter using Method 3A, 3C, or ASTM D6522-11 (incorporated by reference, see § 60.17). Determine the oxygen level by an oxygen meter using Method 3A, 3C, or ASTM D6522-11 (if sample location is prior to combustion) except that:

1. The span must be set between 10 and 12 percent oxygen;
2. A data recorder is not required;
3. Only two calibration gases are required, a zero and span;
4. A calibration error check is not required; and
5. The allowable sample bias, zero drift, and calibration drift are ±10 percent.

C. A portable gas composition analyzer may be used to monitor the oxygen levels provided:

1. The analyzer is calibrated; and
2. The analyzer meets all quality assurance and quality control requirements for Method 3A or ASTM D6522-11 (incorporated by reference, see § 60.17).

D. Monitor temperature of the landfill gas on a monthly basis as provided in § 60.36f(a)(5). The temperature measuring device must be calibrated annually using the procedure in 40 C.F.R. Part 60, Appendix A-1, Method 2, Section 10.3.

b. To demonstrate compliance with § 60.33f(c) using a non-enclosed flare, the permittee must install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

i. A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.

ii. A device that records flow to the flare and bypass of the flare (if applicable). The permittee must:

A. Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the control device at least every 15 minutes; and

B. Secure the 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 must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

c. To demonstrate compliance with the 500 parts per million surface methane operational standard in § 60.34f(d), the permittee must monitor surface concentrations of methane according to the procedures provided in § 60.36f(c) and the instrument specifications in § 60.36f(d). Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500

parts per million or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

d. To demonstrate compliance with the control system requirements in § 60.33f(c) using a landfill gas treatment system, the permittee must maintain and operate all monitoring systems associated with the treatment system in accordance with the site-specific treatment system monitoring plan required in § 60.39f(b)(5)(ii) and must calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to the treatment system and bypass of the treatment system (if applicable). The permittee must:

   i. Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the treatment system at least every 15 minutes; and

   ii. Secure the 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 must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

e. The monitoring requirements of § 60.37f(b), (c), (d), and (g) apply at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable.

74. If the permittee chooses to demonstrate compliance with the requirements of 8 CAR pt. 41, Subpart 16 as provided under 8 CAR § 41.1611(a)(2), the permittee: [8 CAR § 41.1611(b)]

   a. Shall submit to the Division the twenty-four-hour high temperature report required under 40 C.F.R. § 63.1981(k) [Plantwide Condition 55.k]; and

   b. May no longer use the provisions referenced in 8 CAR § 41.1611(a)(1) to comply with operating, compliance, and monitoring requirements of Subpart 16.

75. The permittee shall comply with the initial and annual performance test report provisions as listed below and specified in 40 C.F.R. § 60.38f(h) and (i). [8 CAR § 41.1612 and 40 C.F.R. § 60.38f(h) and (i)]

   a. *Annual report.* To demonstrate compliance with § 60.33f(e)(2) using an active collection system designed in accordance with § 60.33f(b), the permittee must submit to the Administrator, following the procedures specified in § 60.38f(j)(2), an annual report of the recorded information in § 60.38f(h)(1) through (7). The initial annual report must be submitted within 180 days of installation and startup

of the collection and control system. The initial annual report must include the initial performance test report required under § 60.8, as applicable, unless the report of the results of the performance test has been submitted to the EPA via the EPA's CDX. In the initial annual report, the process unit(s) tested, the pollutant(s) tested and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX. The initial performance test report must be submitted, following the procedure specified in § 60.38f(j)(1), no later than the date that the initial annual report is submitted. For enclosed combustion devices and flares, reportable exceedances are defined under § 60.39f(c)(1). If complying with the operational provisions of 40 C.F.R. §§ 63.1958, 63.1960, and 63.1961, as allowed at §§ 60.34f, 60.36f, and 60.37f, the permittee must follow the semi-annual reporting requirements in 40 C.F.R. § 63.1981(h) in lieu of this paragraph.

i. Value and length of time for exceedance of applicable parameters monitored under § 60.37f(a)(1), (b), (c), (d), and (g).

ii. Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under § 60.37f.

iii. Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.

iv. All periods when the collection system was not operating.

v. The location of each exceedance of the 500 parts per million methane concentration as provided in § 60.34f(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. For location, you must determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

vi. The date of installation and the location of each well or collection system expansion added pursuant to § 60.36f(a)(3), (a)(5), (b), and (c)(4).

vii. For any corrective action analysis for which corrective actions are required in § 60.36f(a)(3) or (5) and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or elevated temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

b. *Initial performance test report.* To demonstrate compliance with § 60.33f(c), the permittee must include the following information with the initial performance test report required under § 60.8:

i. A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;

ii. The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;

iii. The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material;

iv. The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area;

v. The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; and

vi. The provisions for the control of off-site migration.

76. If the permittee employs leachate recirculation or added liquids based a Research, Development, and Demonstration permit (issued through Resource Conservation and Recovery Act, subtitle D, Part 258) within the last 10 years must submit to the Administrator, annually, following the procedure specified in 60.38f(j)(2), the following information: [8 CAR § 41.1614 and 40 C.F.R. § 60.38f(l)]

a. Volume of leachate recirculated (gallons per year) and the reported basis of those estimates (records or engineering estimates). [40 C.F.R. § 60.38f(l)(1)]

b. Total volume of all other liquids added (gallons per year) and the reported basis of those estimates (records or engineering estimates). [40 C.F.R. § 60.38f(l)(2)]

c. Surface area (acres) over which the leachate is recirculated (or otherwise applied). [40 C.F.R. § 60.38f(l)(3)]

d. Surface area (acres) over which any other liquids are applied. [40 C.F.R. § 60.38f(l)(4)]

e. The total waste disposed (megagrams) in the areas with recirculated leachate and/or added liquids based on on-site records to the extent data are available, or engineering estimates and the reported basis of those estimates. [40 C.F.R. § 60.38f(l)(5)]

f. The annual waste acceptance rates (megagrams per year) in the areas with recirculated leachate and/or added liquids, based on on-site records to the extent data are available, or engineering estimates. [40 C.F.R. § 60.38f(l)(6)]

g. The initial report must contain items in § 60.38f(l)(1) through (6) per year for the most recent 365 days as well as for each of the previous 10 years, to the extent historical data are available in on-site records, and the report must be submitted no later than September 27, 2017. [40 C.F.R. § 60.38f(l)(7)]

h. Subsequent annual reports must contain items in § 60.38f(l)(1) through (6) for the 365-day period following the 365-day period included in the previous annual report, and the report must be submitted no later than 365 days after the date the previous report was submitted. [40 C.F.R. § 60.38f(l)(8)]

i. Landfills in the closed landfill subcategory are exempt from reporting requirements contained in § 60.38f(l)(1) through (7). [40 C.F.R. § 60.38f(l)(9)]

j. Landfills may cease annual reporting of items in § 60.38f(l)(1) through (6) once they have submitted the closure report in § 60.38f(f). [40 C.F.R. § 60.38f(l)(10)]

77. The permittee shall comply with applicable recordkeeping requirements listed below and specified in 40 C.F.R. § 60.39f (a) through (j). [8 CAR § 41.1615 and 40 C.F.R. § 60.39f]

a. Except as provided in § 60.38f(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report that triggered § 60.33f(e), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

b. Except as provided in § 60.38f(d)(2), the permittee must keep up-to-date, readily accessible records for the life of the control system equipment of the data listed below and specified in § 60.39f(b)(1) through (5) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. Records of the control device vendor specifications must be maintained until removal.

i. To demonstrate compliance with § 60.33f(b), the permittee must maintain records of:

A. The maximum expected gas generation flow rate as calculated in § 60.36f(a)(1). The permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Administrator.

B. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in § 60.40f(a)(1).

ii. To demonstrate compliance with § 60.33f(c)(1) through use of a non-enclosed flare, the flare type (i.e., steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in § 60.18; and continuous records of the flare pilot flame or flare flame monitoring and records of all

periods of operations during which the pilot flame or the flare flame is absent.

iii. If the permittee seeks to demonstrate compliance with § 60.33f(c)(3) through use of a landfill gas treatment system:

A. *Bypass records*. Records of the flow of landfill gas to, and bypass of, the treatment system.

B. *Site-specific treatment monitoring plan*, to include:

1. Monitoring records of parameters that are identified in the treatment system monitoring plan and that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. At a minimum, records should include records of filtration, de-watering, and compression parameters that ensure the treatment system is operating properly for each intended end use of the treated landfill gas.

2. Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.

3. Documentation of the monitoring methods and ranges, along with justification for their use.

4. Identify who is responsible (by job title) for data collection.

5. Processes and methods used to collect the necessary data.

6. Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems.

c. Except as provided in § 60.38f(d)(2), the permittee must keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in § 60.37f as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

i. The following constitute exceedances that must be recorded and reported under § 60.38f:

A. For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average temperature was more than 28 degrees Celsius (82 degrees Fahrenheit) below the average combustion temperature during the most recent performance test at which compliance with § 60.33f(c) was determined.

B. For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under § 60.39f (b)(3).

ii. The permittee must keep up-to-date, readily accessible continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under § 60.37f.

iii. The permittee uses of a non-enclosed flare and must keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under § 60.37f(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

iv. To demonstrate compliance with § 60.33f(e) using an active collection system designed in accordance with § 60.33f(b), the permittee must keep records of periods when the collection system or control device is not operating.

d. Except as provided in § 60.38f(d)(2), the permittee must keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label on each collector that matches the labeling on the plot map.

i. The permittee must keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under § 60.36f(b).

ii. The permittee must keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in § 60.40f(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in § 60.40f(a)(3)(ii).

e. Except as provided in § 60.38f(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible records of the items in paragraphs (e)(1) through (5) of this section. Each owner or operator that chooses to comply with the provisions in §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed in §§ 60.34f, 60.36f, and 60.37f, must keep the records in § 60.39f(e)(6) and must keep records according to 40 C.F.R. § 63.1983(e)(1) through (5) in lieu of § 60.39f(e)(1) through (5).

i. All collection and control system exceedances of the operational standards in § 60.34f, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

ii. The permittee must also keep records of each wellhead temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above,

each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent.

iii. For any root cause analysis for which corrective actions are required in § 60.36f(a)(3) or (5), keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed.

iv. For any root cause analysis for which corrective actions are required in § 60.36f(a)(3)(ii) or (a)(5)(ii), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

v. For any root cause analysis for which corrective actions are required in § 60.36f(a)(3)(iii) or (a)(5)(iii), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the regulatory agency.

vi. If the permittee chooses to comply with the provisions in 40 C.F.R. §§ 63.1958, 63.1960, and 63.1961, as allowed in §§ 60.34f, 60.36f, and 60.37f, the permittee must keep records of the date upon which the permittee started complying with the provisions in §§ 63.1958, 63.1960, and 63.1961.

f. Except as provided in § 60.38f(d)(2), the permittee must keep, for at least 5 years up-to-date, readily accessible records of all collection and control system monitoring data for parameters measured in § 60.37f(a)(1), (2), and (3).

g. Any records required to be maintained by 40 C.F.R. Part 60, Subpart Cf that are submitted electronically via the EPA's CDX may be maintained in electronic format.

h. For each permittee reporting leachate or other liquids addition under § 60.38f(l), keep records of any engineering calculations or company records used to estimate the quantities of leachate or liquids added, the surface areas for which the leachate or liquids were applied, and the estimates of annual waste acceptance or total waste in place in the areas where leachate or liquids were applied.

78. The permittee shall submit, as applicable, the following reports electronically in accordance with the procedures specified in Plantwide Condition 79 in 40 C.F.R. § 60.38f(j): [8 CAR § 41.1616]

a. NMOC emission rate reports required under 8 CAR § 41.1607;

b. Performance testing reports required under 8 CAR § 41.1612; and

c. Liquids addition reports required under 8 CAR § 41.1614.

79. *Electronic reporting*. The permittee must submit reports electronically according to 40 C.F.R. § 60.38f(j)(1) and (2).

a. Within 60 days after the date of completing each performance test (as defined in § 60.8), the permittee must submit the results of each performance test according to the following procedures:

i. For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (https://www3.epa.gov/ttn/chief/ert/ert__info.html) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/). Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternative file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site, once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (j)(1)(i).

ii. For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 60.4.

b. Each permittee required to submit reports following the procedure specified in this paragraph must submit reports to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) The permittee must use the appropriate electronic report in CEDRI for 40 C.F.R. Part 60, Subpart Cf or an alternate electronic file format consistent with the XML schema listed on the CEDRI Web site (https://www3.epa.gov/ttn/chief/cedri/index.html). If the reporting form specific to Subpart Cf is not available in CEDRI at the time that the report is due, the permittee must submit the report to the Administrator at the appropriate address listed in § 60.4. Once the form has been available in CEDRI for 90 calendar days, the permittee must begin submitting all subsequent reports via

CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted.

80. The permittee shall comply with the test methods and procedures, as applicable, specified in 40 C.F.R. § 60.35f(a) through (e). [8 CAR § 41.1617]

81. After the installation and startup of a collection and control system in compliance with 40 C.F.R. Part 60, Subpart Cf, the permittee must calculate the NMOC emission rate for purposes of determining when the system can be capped, removed, or decommissioned as provided in § 60.33f(f), using Equation 3 in 40 C.F.R. § 60.37f(b). [8 CAR § 41.1617 and 40 C.F.R. § 60.35f(b)]

    a. The flow rate of landfill gas, QLFG, must be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control system using a gas flow measuring device calibrated according to the provisions of section 10 of Method 2E of Appendix A of 40 C.F.R. Part 60.

    b. The average NMOC concentration, CNMOC, must be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25 or Method 25C of Appendix A of 40 C.F.R. Part 60. The sample location on the common header pipe must be before any condensate removal or other gas refining units. The permittee must divide the NMOC concentration from Method 25 or Method 25C by six to convert from CNMOC as carbon to CNMOC as hexane.

    c. The permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.

    d. Within 60 days after the date of calculating the NMOC emission rate for purposes of determining when the system can be capped or removed, the permittee must submit the results according to § 60.38f(j)(2).

82. When calculating emissions for Prevention of Significant Deterioration purposes, the permittee of each MSW landfill subject to the provisions of 40 C.F.R. Part 60, Subpart Cf must estimate the NMOC emission rate for comparison to the Prevention of Significant Deterioration major source and significance levels in § 51.166 or § 52.21 of 40 C.F.R. using Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42) or other approved measurement procedures. [8 CAR § 41.1617 and 40 C.F.R. § 60.35f(c)]

83. For the performance test required in § 60.33f(c)(1), the net heating value of the combusted landfill gas as determined in § 60.18(f)(3) is calculated from the concentration of methane in the landfill gas as measured by Method 3C. A minimum of three 30-minute Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under § 60.18(f)(4). Within 60 days after the date of completing each performance test (as defined in § 60.8), the permittee must submit the results of the performance tests required by § 60.35f(b) or (d), including any associated fuel analyses, according to § 60.38f(j)(1). [8 CAR § 41.1617 and 40 C.F.R. § 60.35f(d)]

84. For the performance test required in § 60.33f(c)(2), Method 25 or 25C (Method 25C may be used at the inlet only) of Appendix A of 40 C.F.R. Part 60 must be used to determine compliance with the 98 weight-percent efficiency or the 20 parts per million by volume outlet NMOC concentration level, unless another method to demonstrate compliance has been approved by the Administrator as provided by § 60.38f(d)(2). Method 3, 3A, or 3C must be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. Method 18 may be used in conjunction with Method 25A on a limited basis (compound specific, e.g., methane) or Method 3C may be used to determine methane. The methane as carbon should be subtracted from the Method 25A total hydrocarbon value as carbon to give NMOC concentration as carbon. The permittee must divide the NMOC concentration as carbon by 6 to convert the CNMOC as carbon to CNMOC as hexane. Equation 4 of § 60.35f (e) must be used to calculate efficiency: [8 CAR § 41.1617 and 40 C.F.R. § 60.35f(e)]

    a. Within 60 days after the date of completing each performance test (as defined in § 60.8), the permittee must submit the results of the performance tests, including any associated fuel analyses, according to § 60.38f(j)(1).

85. Corrective Actions: The permittee must submit corrective actions according to 40 C.F.R. § 60.38f(k)(1) and (2). If complying with the operational provisions of §§ 63.1958, 63.1960, and 63.1961, as allowed at §§ 60.34f, 60.36f, and 60.37f, the permittee must follow the corrective action and the corresponding timeline reporting requirements in § 63.1981(j) in lieu of § 60.38f (k)(1) and (2). [8 CAR § 41.1618 and 40 C.F.R. § 60.38f (k)]

    a. For corrective action that is required according to § 60.36f(a)(3)(iii) or (a)(5)(iii) and is expected to take longer than 120 days after the initial exceedance to complete, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above. The Administrator must approve the plan for corrective action and the corresponding timeline. [40 C.F.R. § 60.38f (k)(1)]

    b. For corrective action that is required according to § 60.36f(a)(3)(iii) or (a)(5)(iii) and is not completed within 60 days after the initial exceedance, the permittee must submit a notification to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance. [40 C.F.R. § 60.38f (k)(2)]

SECTION VII: INSIGNIFICANT ACTIVITIES

The Division of Environmental Quality 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 8 CAR pt. 40 and pt. 41 Appendix A. Group B insignificant activities may be listed but are not required to be listed in permits. Insignificant activity emission determinations rely upon the information submitted by the permittee in an application and additional information dated January 20, 2025 and November 17, 2025. [8 CAR § 42-204 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

Description	Category
5,000 gallon Diesel Storage Tank	A-3
1,000 gallon Used Oil Tank	A-3
500 gallon Used Oil Tank	A-3
500 gallon Used Oil Tank	A-3
15,000 gallon Diesel Storage Tank	A-13
Leachate pond	A-13

SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission 8 CAR pt. 40 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 8 CAR pt. 40 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 which specify and reference Arkansas Pollution Control & Ecology Commission 8 CAR pt. 40 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. [40 C.F.R. § 70.6(b)(2)]

2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 C.F.R. § 70.6(a)(2) and 8 CAR § 42-601(2)]

3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Division of Environmental Quality takes final action on the renewal application. The Division of Environmental Quality will not necessarily notify the permittee when the permit renewal application is due. [8 CAR § 42-306]

4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 C.F.R. § 70.6(a)(1)(ii) and 8 CAR § 42-601(1)(C)]

5. The permittee must maintain the following records of monitoring information as required by this permit.

    a. The date, place as defined in this permit, and time of sampling or measurements;
    b. The date(s) analyses performed;
    c. The company or entity performing the analyses;
    d. The analytical techniques or methods used;
    e. The results of such analyses; and
    f. The operating conditions existing at the time of sampling or measurement.

    [40 C.F.R. § 70.6(a)(3)(ii)(A) and 8 CAR § 42-601(3)(C)]

6. The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 C.F.R. § 70.6(a)(3)(ii)(B) and 8 CAR § 42-601(3)(C)(ii)]

7. The permittee must submit reports of all required monitoring every six (6) months. If the permit establishes no other reporting period, the reporting period shall end on the last day of the month six months after the issuance of the initial Title V permit and every six months thereafter. The report is due on the first day of the second month after the end of the reporting period. The first report due after issuance of the initial Title V permit shall contain six months of data and each report thereafter shall contain 12 months of data. The report shall contain data for all monitoring requirements in effect during the reporting period. If a monitoring requirement is not in effect for the entire reporting period, only those months of data in which the monitoring requirement was in effect are required to be reported. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in 8 CAR § 42-104 must certify all required reports. The permittee will send the reports electronically using https://eportal.adeq.state.ar.us or mail them to the address below:

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

   [40 C.F.R. § 70.6(a)(3)(iii)(A) and 8 CAR § 42-601(3)(D)(i)]

8. The permittee shall report to the Division of Environmental Quality all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.

   a. For all upset conditions (as defined in 8 CAR § 41-501), the permittee will make an initial report to the Division of Environmental Quality by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:

      i. The facility name and location;
      ii. The process unit or emission source deviating from the permit limit;
      iii. The permit limit, including the identification of pollutants, from which deviation occurs;
      iv. The date and time the deviation started;
      v. The duration of the deviation;

vi. The emissions during the deviation;
vii. The probable cause of such deviations;
viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future; and
ix. The name of the person submitting the report.

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

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

[8 CAR § 41-501, 8 CAR § 41-502, 8 CAR § 42-601(3)(D)(ii), and 40 C.F.R. § 70.6(a)(3)(iii)(B)]

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Rule are declared to be separable and severable. [40 C.F.R. § 70.6(a)(5), Rule 8 CAR § 42-601(5), and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in 8 CAR pt. 42 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. § 7401, et seq. and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 C.F.R. § 70.6(a)(6)(i) and 8 CAR § 42-601(6)(A)]

11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 C.F.R. § 70.6(a)(6)(ii) and 8 CAR § 42-601(6)(B)]

12. The Division of Environmental Quality may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of

planned changes or anticipated noncompliance does not stay any permit condition. [40 C.F.R. § 70.6(a)(6)(iii) and 8 CAR § 42-601(6)(C)]

13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 C.F.R. § 70.6(a)(6)(iv) and 8 CAR § 42-601(6)(D)]

14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Division of Environmental Quality may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 C.F.R. § 70.6(a)(6)(v) and 8 CAR § 42-601(6)(E)]

15. The permittee must pay all permit fees in accordance with the procedures established in 8 CAR pt. 12. [40 C.F.R. § 70.6(a)(7) and 8 CAR § 42-601(7)]

16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 C.F.R. § 70.6(a)(8) and 8 CAR § 42-601(8)]

17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 C.F.R. § 70.6(a)(9)(i) and 8 CAR § 42-601(9)(B)(i)]

18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Division of Environmental Quality specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 C.F.R. § 70.6(b) and 8 CAR § 42-602(a) and (b)]

19. Any document (including reports) required by this permit pursuant to 40 C.F.R. § 70 must contain a certification by a responsible official as defined in 8 CAR § 42-104. [40 C.F.R. § 70.6(c)(1) and 8 CAR § 42-603(1)]

20. The permittee must allow an authorized representative of the Division of Environmental Quality, upon presentation of credentials, to perform the following: [40 C.F.R. § 70.6(c)(2) and 8 CAR § 42-603(2)]

    a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.

21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually. If the permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due on the first day of the second month after the end of the reporting period. The permittee must also submit the compliance certification to the Administrator as well as to the Division of Environmental Quality. All compliance certifications required by this permit must include the following: [40 C.F.R. § 70.6(c)(5) and 8 CAR § 42-603(5)(B)(iii)]

a. The identification of each term or condition of the permit that is the basis of the certification;
b. The compliance status;
c. Whether compliance was continuous or intermittent;
d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
e. Such other facts as the Division of Environmental Quality may require elsewhere in this permit or by § 114(a)(3) and § 504(b) of the Act.

22. Nothing in this permit will alter or affect the following: [8 CAR § 42-604(c)]

a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
c. The applicable requirements of the acid rain program, consistent with § 408(a) of the Act; or
d. The ability of EPA to obtain information from a source pursuant to § 114 of the Act.

23. This permit authorizes only those pollutant emitting activities addressed in this permit. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

24. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Division of Environmental Quality

approval. The Division of Environmental Quality 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.

[8 CAR § 40-214(a), 8 CAR § 41-316(a), 8 CAR § 42-913(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]

25. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Division of Environmental Quality approval. Any such emissions shall be included in the facility's total emissions and reported as such. The Division of Environmental Quality 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 Division of Environmental Quality 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.

[8 CAR § 40-214(b), 8 CAR § 41-316(b), 8 CAR § 42-913(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]

26. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Division of Environmental Quality approval. The Division of Environmental Quality 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.

[8 CAR § 40-214(c), 8 CAR § 41-316(c), 8 CAR § 42-913(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]

27. Any credible evidence based on sampling, monitoring, and reporting may be used to determine violations of applicable emission limitations. [8 CAR § 40-901, 8 CAR § 41-601, 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 C.F.R. Part 60, Subpart Cf, Sections 33f through 41f

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 60 —Standards of Performance for New Stationary Sources
Subpart Cf —Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

Source: 81 FR 59313, Aug. 29, 2016, unless otherwise noted.
Authority: 42 U.S.C. 7401 *et seq.*
Source: 36 FR 24877, Dec. 23, 1971, unless otherwise noted.

§ 60.33f Emission Guidelines for municipal solid waste landfill emissions.

(a) ***Landfills.*** For approval, a state plan must require each owner or operator of an MSW landfill having a design capacity greater than or equal to 2.5 million megagrams by mass and 2.5 million cubic meters by volume to collect and control MSW landfill emissions at each MSW landfill that meets the following conditions:

(1) The landfill has accepted waste at any time since November 8, 1987, or has additional design capacity available for future waste deposition.

(2) The landfill commenced construction, reconstruction, or modification on or before July 17, 2014.

(3) The landfill has an NMOC emission rate greater than or equal to 34 megagrams per year or Tier 4 surface emissions monitoring shows a surface emission concentration of 500 parts per million methane or greater.

(4) The landfill in the closed landfill subcategory and has an NMOC emission rate greater than or equal to 50 megagrams per year or Tier 4 surface emissions monitoring shows a surface emission concentration of 500 parts per million methane or greater.

(b) ***Collection system.*** For approval, a state plan must include provisions for the installation of a gas collection and control system meeting the requirements in paragraphs (b)(1) through (3) and (c) of this section at each MSW landfill meeting the conditions in paragraph (a) of this section.

(1) ***Collection system.*** Install and start up a collection and control system that captures the gas generated within the landfill within 30 months after:

(i) The first annual report in which the NMOC emission rate equals or exceeds 34 megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the NMOC emission rate is less than 34 megagrams per year, as specified in § 60.38f(d)(4); or

(ii) The first annual NMOC emission rate report for a landfill in the closed landfill subcategory in which the NMOC emission rate equals or exceeds 50 megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the NMOC emission rate is less than 50 megagrams per year, as specified in § 60.38f(d)(4); or

(iii) The most recent NMOC emission rate report in which the NMOC emission rate equals or exceeds 34 megagrams per year based on Tier 2, if the Tier 4 surface emissions monitoring shows a surface methane emission concentration of 500 parts per million methane or greater as specified in § 60.38f(d)(4)(iii).

(2) ***Active.*** An active collection system must:

(i) Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system equipment.

(ii) Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade.

(iii) Collect gas at a sufficient extraction rate.

(iv) Be designed to minimize off-site migration of subsurface gas.

(3) ***Passive.*** A passive collection system must:

(i) Comply with the provisions specified in paragraphs (b)(2)(i), (ii), and (iv) of this section.

(ii) Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners must be installed as required under § 258.40 of this chapter.

(c) ***Control system.*** For approval, a state plan must include provisions for the control of the gas collected from within the landfill through the use of control devices meeting the following requirements, except as provided in § 60.24.

(1) A non-enclosed flare designed and operated in accordance with the parameters established in § 60.18 except as noted in § 60.37f(d); or

(2) A control system designed and operated to reduce NMOC by 98 weight percent; or when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen or less. The reduction efficiency or concentration in parts per million by volume must be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in § 60.35f(d). The performance test is not required for boilers and process heaters with design heat input capacities equal to or greater than 44 megawatts that burn landfill gas for compliance with this subpart.

(i) If a boiler or process heater is used as the control device, the landfill gas stream must be introduced into the flame zone.

(ii) The control device must be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in § 60.37f.

(iii) For the closed landfill subcategory, the initial or most recent performance test conducted to comply with subpart WWW of this part; 40 CFR part 62, subpart GGG; or a state plan implementing subpart Cc of this part on or before July 17, 2014 is sufficient for compliance with this subpart.

(3) Route the collected gas to a treatment system that processes the collected gas for subsequent sale or beneficial use such as fuel for combustion, production of vehicle fuel, production of high-Btu gas for pipeline injection, or use as a raw material in a chemical manufacturing process. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to either paragraph (c)(1) or (2) of this section.

(4) All emissions from any atmospheric vent from the gas treatment system are subject to the requirements of paragraph (b) or (c) of this section. For purposes of this subpart, atmospheric vents located on the condensate storage tank are not part of the treatment system and are exempt from the requirements of paragraph (b) or (c) of this section.

(d) ***Design capacity.*** For approval, a state plan must require each owner or operator of an MSW landfill having a design capacity less than 2.5 million megagrams by mass or 2.5 million cubic meters by volume to submit an initial design capacity report to the Administrator as provided in § 60.38f(a). The landfill may calculate design capacity in either megagrams or cubic meters for comparison with the exemption values. Any density conversions must be documented and submitted with the report. Submittal of the initial design capacity report fulfills the requirements of this subpart except as provided in paragraphs (d)(1) and (2) of this section.

(1) The owner or operator must submit an amended design capacity report as provided in § 60.38f(b).

Note to paragraph (d)(1): Note that if the design capacity increase is the result of a modification, as defined in this subpart, that was commenced after July 17, 2014, then the landfill becomes subject to subpart XXX of this part instead of this subpart. If the design capacity increase is the result of a change in operating practices, density, or some other change that is not a modification as defined in this subpart, then the landfill remains subject to this subpart.

(2) When an increase in the maximum design capacity of a landfill with an initial design capacity less than 2.5 million megagrams or 2.5 million cubic meters results in a revised maximum design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, the owner or operator must comply with paragraph (e) of this section.

(e) ***Emissions.*** For approval, a state plan must require each owner or operator of an MSW landfill having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters to either install a collection and control system as provided in paragraphs (b) and (c) of this section or calculate an initial NMOC emission rate for the landfill using the procedures specified in § 60.35f(a). The NMOC emission rate must be recalculated annually, except as provided in § 60.38f(c)(3).

(1) If the calculated NMOC emission rate is less than 34 megagrams per year, the owner or operator must:

(i) Submit an annual NMOC emission rate report according to § 60.38f(c), except as provided in § 60.38f(c)(3); and

(ii) Recalculate the NMOC emission rate annually using the procedures specified in § 60.35f(a) until such time as the calculated NMOC emission rate is equal to or greater than 34 megagrams per year, or the landfill is closed.

(A) If the calculated NMOC emission rate, upon initial calculation or annual recalculation required in paragraph (e)(1)(ii) of this section, is equal to or greater than 34 megagrams per year, the owner or operator must either: Comply with paragraphs (b) and (c) of this section; calculate NMOC emissions using the next higher tier in § 60.35f; or conduct a surface emission monitoring demonstration using the procedures specified in § 60.35f(a)(6).

(B) If the landfill is permanently closed, a closure report must be submitted to the Administrator as provided in § 60.38f(f), except for exemption allowed under § 60.31f(e)(4).

(C) For the closed landfill subcategory, if the most recently calculated NMOC emission rate is equal to or greater than 50 megagrams per year, the owner or operator must either: Submit a gas collection and control system design plan as specified in § 60.38f(d), except for exemptions allowed under § 60.31f(e)(3), and install a collection and control system as provided in paragraphs (b) and (c) of this section; calculate NMOC emissions using the next higher tier in § 60.35f; or conduct a surface emission monitoring demonstration using the procedures specified in § 60.35f(a)(6).

(2) If the calculated NMOC emission rate is equal to or greater than 34 megagrams per year using Tier 1, 2, or 3 procedures, the owner or operator must either: submit a collection and control system design plan prepared by a professional engineer to the Administrator within 1 year as specified in § 60.38f(d), except for exemptions allowed under § 60.31f(e)(3); calculate NMOC emissions using a higher tier in § 60.35f; or conduct a surface emission monitoring demonstration using the procedures specified in § 60.35f(a)(6).

(3) For the closed landfill subcategory, if the calculated NMOC emission rate is equal to or greater than 50 megagrams per year using Tier 1, 2, or 3 procedures, the owner or operator must either: Submit a collection and control system design plan as specified in § 60.38f(d), except for exemptions allowed under § 60.31f(e)(3); calculate NMOC emissions using a higher tier in § 60.35f; or conduct a surface emission monitoring demonstration using the procedures specified in § 60.35f(a)(6).

(f) ***Removal criteria.*** The collection and control system may be capped, removed, or decommissioned if the following criteria are met:

(1) The landfill is a closed landfill (as defined in § 60.41f). A closure report must be submitted to the Administrator as provided in § 60.38f(f).

(2) The collection and control system has been in operation a minimum of 15 years or the landfill owner or operator demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flow.

(3) Following the procedures specified in § 60.35f(b), the calculated NMOC emission rate at the landfill is less than 34 megagrams per year on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart.

(4) For the closed landfill subcategory (as defined in § 60.41), following the procedures specified in § 60.35f(b), the calculated NMOC emission rate at the landfill is less than 50 megagrams per year on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart.

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 60 —Standards of Performance for New Stationary Sources
Subpart Cf —Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

Source: 81 FR 59313, Aug. 29, 2016, unless otherwise noted.
Authority: 42 U.S.C. 7401 *et seq.*
Source: 36 FR 24877, Dec. 23, 1971, unless otherwise noted.

§ 60.34f Operational standards for collection and control systems.

For approval, a state plan must include provisions for the operational standards in this section (as well as the provisions in §§ 60.36f and 60.37f), or the operational standards in § 63.1958 of this chapter (as well as the provisions in §§ 63.1960 of this chapter and 63.1961 of this chapter), or both as alternative means of compliance, for an MSW landfill with a gas collection and control system used to comply with the provisions of § 60.33f(b) and (c). Once the owner or operator begins to comply with the provisions of § 63.1958 of this chapter, the owner or operator must continue to operate the collection and control device according to those provisions and cannot return to the provisions of this section. Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of § 60.33f(b) and (c) must:

(a) Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

(1) Five (5) years or more if active; or

(2) Two (2) years or more if closed or at final grade.

(b) Operate the collection system with negative pressure at each wellhead except under the following conditions:

(1) A fire or increased well temperature. The owner or operator must record instances when positive pressure occurs in efforts to avoid a fire. These records must be submitted with the annual reports as provided in § 60.38f(h)(1).

(2) Use of a geomembrane or synthetic cover. The owner or operator must develop acceptable pressure limits in the design plan.

(3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes must be approved by the Administrator as specified in § 60.38f(d).

(c) Operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit). The owner or operator may establish a higher operating temperature value at a particular well. A higher operating value demonstration must be submitted to the Administrator for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria in order to be approved (*i.e.,* neither causing fires nor killing methanogens is acceptable).

(d) Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator must conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in § 60.36(d). The owner or operator must conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover and all cover penetrations. Thus, the owner or operator must monitor any openings that are within an area of the landfill where waste has been placed and a gas collection system is required. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan must be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

(e) Operate the system such that all collected gases are vented to a control system designed and operated in compliance with § 60.33f(c). In the event the collection or control system is not operating, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within 1 hour of the collection or control system not operating.

(f) Operate the control system at all times when the collected gas is routed to the system.

(g) If monitoring demonstrates that the operational requirements in paragraph (b), (c), or (d) of this section are not met, corrective action must be taken as specified in § 60.36f(a)(3) and (5) or (c). If corrective actions are taken as specified in § 60.36f, the monitored exceedance is not a violation of the operational requirements in this section.

[81 FR 59313, Aug. 29, 2016, as amended at 85 FR 17259, Mar. 26, 2020]

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 60 —Standards of Performance for New Stationary Sources
Subpart Cf —Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

Source: 81 FR 59313, Aug. 29, 2016, unless otherwise noted.
Authority: 42 U.S.C. 7401 *et seq.*
Source: 36 FR 24877, Dec. 23, 1971, unless otherwise noted.

§ 60.35f Test methods and procedures.

For approval, a state plan must include provisions in this section to calculate the landfill NMOC emission rate or to conduct a surface emission monitoring demonstration.

(a)

(1) ***NMOC Emission Rate.*** The landfill owner or operator must calculate the NMOC emission rate using either Equation 1 provided in paragraph (a)(1)(i) of this section or Equation 2 provided in paragraph (a)(1)(ii) of this section. Both Equation 1 and Equation 2 may be used if the actual year-to-year solid waste acceptance rate is known, as specified in paragraph (a)(1)(i) of this section, for part of the life of the landfill and the actual year-to-year solid waste acceptance rate is unknown, as specified in paragraph (a)(1)(ii) of this section, for part of the life of the landfill. The values to be used in both Equation 1 and Equation 2 are 0.05 per year for k, 170 cubic meters per megagram for Lo, and 4,000 parts per million by volume as hexane for the C_{NMOC}. For landfills located in geographical areas with a 30-year annual average precipitation of less than 25 inches, as measured at the nearest representative official meteorologic site, the k value to be used is 0.02 per year.

(i)

(A) Equation 1 must be used if the actual year-to-year solid waste acceptance rate is known.

$$M_{NMOC} = \sum_{i=1}^{n} 2\,k\,L_o M_i (e^{-kt_i})(C_{NMOC})(3.6\,x\,10^{-9}) \qquad \text{(Eq. 1)}$$

Where:

M_{NMOC} = Total NMOC emission rate from the landfill, megagrams per year.

k = Methane generation rate constant, $year^{-1}$.

L_o = Methane generation potential, cubic meters per megagram solid waste.

M_i = Mass of solid waste in the i^{th} section, megagrams.

t_i = Age of the i^{th} section, years.

C_{NMOC} = Concentration of NMOC, parts per million by volume as hexane.

3.6×10^{-9} = Conversion factor.

(B) The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value for M_i if documentation of the nature and amount of such wastes is maintained.

(ii)

(A) Equation 2 must be used if the actual year-to-year solid waste acceptance rate is unknown.

$$M_{NMOC} = 2L_oR\ (e^{-kc}-e^{-kt})\ C_{NMOC}(3.6 \times 10^{-9}) \qquad \text{(Eq. 2)}$$

Where:

M_{NMOC} = Mass emission rate of NMOC, megagrams per year.

L_o = Methane generation potential, cubic meters per megagram solid waste.

R = Average annual acceptance rate, megagrams per year.

k = Methane generation rate constant, $year^{-1}$.

t = Age of landfill, years.

C_{NMOC} = Concentration of NMOC, parts per million by volume as hexane.

c = Time since closure, years; for an active landfill c = 0 and $e^{-kc} = 1$.

3.6×10^{-9} = Conversion factor.

(B) The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value of R, if documentation of the nature and amount of such wastes is maintained.

(2) ***Tier 1.*** The owner or operator must compare the calculated NMOC mass emission rate to the standard of 34 megagrams per year.

(i) If the NMOC emission rate calculated in paragraph (a)(1) of this section is less than 34 megagrams per year, then the owner or operator must submit an NMOC emission rate report according to § 60.38f(c), and must recalculate the NMOC mass emission rate annually as required under § 60.33f(e).

(ii) If the NMOC emission rate calculated in paragraph (a)(1) of this section is equal to or greater than 34 megagrams per year, then the landfill owner or operator must either:

(A) Submit a gas collection and control system design plan within 1 year as specified in § 60.38f(d) and install and operate a gas collection and control system within 30 months according to § 60.33f(b) and (c);

(B) Determine a site-specific NMOC concentration and recalculate the NMOC emission rate using the Tier 2 procedures provided in paragraph (a)(3) of this section; or

(C) Determine a site-specific methane generation rate constant and recalculate the NMOC emission rate using the Tier 3 procedures provided in paragraph (a)(4) of this section.

(3) ***Tier 2.*** The landfill owner or operator must determine the site-specific NMOC concentration using the following sampling procedure. The landfill owner or operator must install at least two sample probes per hectare, evenly distributed over the landfill surface that has retained waste for at least 2 years. If the landfill is larger than 25 hectares in area, only 50 samples are required. The probes should be evenly distributed across the sample area. The sample probes should be located to avoid known areas of nondegradable solid waste. The owner or operator must collect and analyze one sample of landfill gas from each probe to determine the NMOC concentration using Method 25 or 25C of appendix A of this part. Taking composite samples from different probes into a single cylinder is allowed; however, equal sample volumes must be taken from each probe. For each composite, the sampling rate, collection times, beginning and ending cylinder vacuums, or alternative volume measurements must be recorded to verify that composite volumes are equal. Composite sample volumes should not be less than one liter unless evidence can be provided to substantiate the accuracy of smaller volumes. Terminate compositing before the cylinder approaches ambient pressure where measurement accuracy diminishes. If more than the required number of samples is taken, all samples must be used in the analysis. The landfill owner or operator must divide the NMOC concentration from Method 25 or 25C by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane. If the landfill has an active or passive gas removal system in place, Method 25 or 25C samples may be collected from these systems instead of surface probes provided the removal system can be shown to provide sampling as representative as the two sampling probe per hectare requirement. For active collection systems, samples may be collected from the common header pipe. The sample location on the common header pipe must be before any gas moving, condensate removal, or treatment system equipment. For active collection systems, a minimum of three samples must be collected from the header pipe.

(i) Within 60 days after the date of determining the NMOC concentration and corresponding NMOC emission rate, the owner or operator must submit the results according to § 60.38f(j)(2).

(ii) The landfill owner or operator must recalculate the NMOC mass emission rate using Equation 1 or Equation 2 provided in paragraph (a)(1)(i) or (ii) of this section using the average site-specific NMOC concentration from the collected samples instead of the default value provided in paragraph (a)(1) of this section.

(iii) If the resulting NMOC mass emission rate is less than 34 megagrams per year, then the owner or operator must submit a periodic estimate of NMOC emissions in an NMOC emission rate report according to § 60.38f(c), and must recalculate the NMOC mass emission rate annually as required under § 60.33f(e). The site-specific NMOC concentration must be retested every 5 years using the methods specified in this section.

(iv) If the NMOC mass emission rate as calculated using the Tier 2 site-specific NMOC concentration is equal to or greater than 34 megagrams per year, the owner or operator must either:

(A) Submit a gas collection and control system design plan within 1 year as specified in § 60.38f(d) and install and operate a gas collection and control system within 30 months according to § 60.33f(b) and (c);

(B) Determine a site-specific methane generation rate constant and recalculate the NMOC emission rate using the site-specific methane generation rate using the Tier 3 procedures specified in paragraph (a)(4) of this section; or

(C) Conduct a surface emission monitoring demonstration using the Tier 4 procedures specified in paragraph (a)(6) of this section.

(4) ***Tier 3.*** The site-specific methane generation rate constant must be determined using the procedures provided in Method 2E of appendix A of this part. The landfill owner or operator must estimate the NMOC mass emission rate using Equation 1 or Equation 2 in paragraph (a)(1)(i) or (ii) of this section and using a site-specific methane generation rate constant, and the site-specific NMOC concentration as determined in paragraph (a)(3) of this section instead of the default values provided in paragraph (a)(1) of this section. The landfill owner or operator must compare the resulting NMOC mass emission rate to the standard of 34 megagrams per year.

(i) If the NMOC mass emission rate as calculated using the Tier 2 site-specific NMOC concentration and Tier 3 site-specific methane generation rate is equal to or greater than 34 megagrams per year, the owner or operator must either:

(A) Submit a gas collection and control system design plan within 1 year as specified in § 60.38f(d) and install and operate a gas collection and control system within 30 months according to § 60.33f(b) and (c); or

(B) Conduct a surface emission monitoring demonstration using the Tier 4 procedures specified in paragraph (a)(6) of this section.

(ii) If the NMOC mass emission rate is less than 34 megagrams per year, then the owner or operator must recalculate the NMOC mass emission rate annually using Equation 1 or Equation 2 in paragraph (a)(1) of this section and using the site-specific Tier 2 NMOC concentration and Tier 3 methane generation rate constant and submit a periodic NMOC emission rate report as provided in § 60.38f(c). The calculation of the methane generation rate constant is performed only once, and the value obtained from this test must be used in all subsequent annual NMOC emission rate calculations.

(5) ***Other methods.*** The owner or operator may use other methods to determine the NMOC concentration or a site-specific methane generation rate constant as an alternative to the methods required in paragraphs (a)(3) and (4) of this section if the method has been approved by the Administrator.

(6) ***Tier 4.*** The landfill owner or operator must demonstrate that surface methane emissions are below 500 parts per million. Surface emission monitoring must be conducted on a quarterly basis using the following procedures. Tier 4 is allowed only if the landfill owner or operator can demonstrate that NMOC emissions are greater than or equal to 34 Mg/yr but less than 50 Mg/yr using Tier 1 or Tier 2. If both Tier 1 and Tier 2 indicate NMOC emissions are 50 Mg/yr or greater, then Tier 4 cannot be used. In addition, the landfill must meet the criteria in paragraph (a)(6)(viii) of this section.

(i) The owner or operator must measure surface concentrations of methane along the entire perimeter of the landfill and along a pattern that traverses the landfill at no more than 30-meter intervals using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in § 60.36f(d).

(ii) The background concentration must be determined by moving the probe inlet upwind and downwind at least 30 meters from the waste mass boundary of the landfill.

(iii) Surface emission monitoring must be performed in accordance with section 8.3.1 of Method 21 of appendix A of this part, except that the probe inlet must be placed no more than 5 centimeters above the landfill surface; the constant measurement of distance above the surface should be based on a mechanical device such as with a wheel on a pole.

(A) The owner or operator must use a wind barrier, similar to a funnel, when onsite average wind speed exceeds 4 miles per hour or 2 meters per second or gust exceeding 10 miles per hour. Average on-site wind speed must also be determined in an open area at 5-minute intervals using an on-site anemometer with a continuous recorder and data logger for the entire duration of the monitoring event. The wind barrier must surround the SEM monitor, and must be placed on the ground, to ensure wind turbulence is blocked. SEM cannot be conducted if average wind speed exceeds 25 miles per hour.

(B) Landfill surface areas where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover, and all cover penetrations must also be monitored using a device meeting the specifications provided in § 60.36f(d).

(iv) Each owner or operator seeking to comply with the Tier 4 provisions in paragraph (a)(6) of this section must maintain records of surface emission monitoring as provided in § 60.39f(g) and submit a Tier 4 surface emissions report as provided in § 60.38f(d)(4)(iii).

(v) If there is any measured concentration of methane of 500 parts per million or greater from the surface of the landfill, the owner or operator must submit a gas collection and control system design plan within 1 year of the first measured concentration of methane of 500 parts per million or greater from the surface of the landfill according to § 60.38f(d) and install and operate a gas collection and control system according to § 60.33f(b) and (c) within 30 months of the most recent NMOC emission rate report in which the NMOC emission rate equals or exceeds 34 megagrams per year based on Tier 2.

(vi) If after four consecutive quarterly monitoring periods at a landfill, other than a closed landfill, there is no measured concentration of methane of 500 parts per million or greater from the surface of the landfill, the owner or operator must continue quarterly surface emission monitoring using the methods specified in this section.

(vii) If after four consecutive quarterly monitoring periods at a closed landfill there is no measured concentration of methane of 500 parts per million or greater from the surface of the landfill, the owner or operator must conduct annual surface emission monitoring using the methods specified in this section.

(viii) If a landfill has installed and operates a collection and control system that is not required by this subpart, then the collection and control system must meet the following criteria:

(A) The gas collection and control system must have operated for at least 6,570 out of 8,760 hours preceding the Tier 4 surface emissions monitoring demonstration.

(B) During the Tier 4 surface emissions monitoring demonstration, the gas collection and control system must operate as it normally would to collect and control as much landfill gas as possible.

(b) After the installation and startup of a collection and control system in compliance with this subpart, the owner or operator must calculate the NMOC emission rate for purposes of determining when the system can be capped, removed, or decommissioned as provided in § 60.33f(f), using Equation 3:

$$M_{NMOC} = 1.89 \times 10^{-3} Q_{LFG} C_{NMOC} \quad \text{(Eq. 3)}$$

Where:

M_{NMOC} = Mass emission rate of NMOC, megagrams per year.

Q_{LFG} = Flow rate of landfill gas, cubic meters per minute.

C_{NMOC} = NMOC concentration, parts per million by volume as hexane.

(1) The flow rate of landfill gas, Q_{LFG}, must be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control system using a gas flow measuring device calibrated according to the provisions of section 10 of Method 2E of appendix A of this part.

(2) The average NMOC concentration, C_{NMOC}, must be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25 or Method 25C of appendix A of this part. The sample location on the common header pipe must be before any condensate removal or other gas refining units. The landfill owner or operator must divide the NMOC concentration from Method 25 or Method 25C by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.

(3) The owner or operator may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.

(i) Within 60 days after the date of calculating the NMOC emission rate for purposes of determining when the system can be capped or removed, the owner or operator must submit the results according to § 60.38f(j)(2).

(ii) [Reserved]

(c) When calculating emissions for Prevention of Significant Deterioration purposes, the owner or operator of each MSW landfill subject to the provisions of this subpart must estimate the NMOC emission rate for comparison to the Prevention of Significant Deterioration major source and significance levels in § 51.166 or § 52.21 of this chapter using Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP–42) or other approved measurement procedures.

(d) For the performance test required in § 60.33f(c)(1), the net heating value of the combusted landfill gas as determined in § 60.18(f)(3) is calculated from the concentration of methane in the landfill gas as measured by Method 3C. A minimum of three 30-minute Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under § 60.18(f)(4).

(1) Within 60 days after the date of completing each performance test (as defined in § 60.8), the owner or operator must submit the results of the performance tests required by paragraph (b) or (d) of this section, including any associated fuel analyses, according to § 60.38f(j)(1).

(2) [Reserved]

(e) For the performance test required in § 60.33f(c)(2), Method 25 or 25C (Method 25C may be used at the inlet only) of appendix A of this part must be used to determine compliance with the 98 weight-percent efficiency or the 20 parts per million by volume outlet NMOC concentration level, unless another method to demonstrate compliance has been approved by the Administrator as provided by § 60.38f(d)(2). Method 3, 3A, or 3C must be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. Method 18 may be used in conjunction with Method 25A on a limited basis (compound specific, *e.g.*, methane) or Method 3C may be used to determine methane. The methane as carbon should be subtracted from the Method 25A total hydrocarbon value as carbon to give NMOC concentration as carbon. The landfill owner or operator must divide the NMOC concentration as carbon by 6 to convert the C_{NMOC} as carbon to C_{NMOC} as hexane. Equation 4 must be used to calculate efficiency:

$$\text{Control Efficiency} = (NMOC_{in} - NMOC_{out})/(NMOC_{in}) \qquad \text{(Eq. 4)}$$

Where:

$NMOC_{in}$ = Mass of NMOC entering control device.

$NMOC_{out}$ = Mass of NMOC exiting control device.

(1) Within 60 days after the date of completing each performance test (as defined in § 60.8), the owner or operator must submit the results of the performance tests, including any associated fuel analyses, according to § 60.38f(j)(1).

(2) [Reserved]

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 60 —Standards of Performance for New Stationary Sources
Subpart Cf —Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

Source: 81 FR 59313, Aug. 29, 2016, unless otherwise noted.
Authority: 42 U.S.C. 7401 *et seq.*
Source: 36 FR 24877, Dec. 23, 1971, unless otherwise noted.

§ 60.36f Compliance provisions.

For approval, a state plan must include the compliance provisions in this section (as well as the provisions in §§ 60.34f and 60.37f), or the compliance provisions in § 63.1960 of this chapter (as well as the provisions in §§ 63.1958 of this chapter and 63.1961 of this chapter), or both as alternative means of compliance, for an MSW landfill with a gas collection and control system used to comply with the provisions of § 60.33f(b) and (c). Once the owner or operator begins to comply with the provisions of § 63.1960 of this chapter, the owner or operator must continue to operate the collection and control device according to those provisions and cannot return to the provisions of this section.

(a) Except as provided in § 60.38f(d)(2), the specified methods in paragraphs (a)(1) through (6) of this section must be used to determine whether the gas collection system is in compliance with § 60.33f(b)(2).

(1) For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with § 60.33f(b)(2)(i), either Equation 5 or Equation 6 in paragraph (a)(1)(i) or (ii) of this section must be used. The methane generation rate constant (k) and methane generation potential (L_o) kinetic factors should be those published in the most recent AP–42 or other site-specific values demonstrated to be appropriate and approved by the Administrator. If k has been determined as specified in § 60.35f(a)(4), the value of k determined from the test must be used. A value of no more than 15 years must be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

(i) For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_oR\ (e^{-kc} - e^{-kt}) \qquad \text{(Eq. 5)}$$

Where:

Q_m = Maximum expected gas generation flow rate, cubic meters per year.

L_o = Methane generation potential, cubic meters per megagram solid waste.

R = Average annual acceptance rate, megagrams per year.

k = Methane generation rate constant, $year^{-1}$.

t = Age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less. If the equipment is installed after closure, t is the age of the landfill at installation, years.

c = Time since closure, years (for an active landfill c = 0 and e^{-kc} = 1).

(ii) For sites with known year-to-year solid waste acceptance rate:

$$Q_M = \sum_{i=1}^{n} 2kL_oM_i(e^{-kt_i}) \qquad \text{(Eq. 6)}$$

Where:

Q_M = Maximum expected gas generation flow rate, cubic meters per year.

k = Methane generation rate constant, $year^{-1}$.

L_o = Methane generation potential, cubic meters per megagram solid waste.

M_i = Mass of solid waste in the i^{th} section, megagrams.

t_i = Age of the i^{th} section, years.

(iii) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, Equation 5 or Equation 6 in paragraph (a)(1)(i) or (ii) of this section. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using Equation 5 or Equation 6 or other methods must be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

(2) For the purposes of determining sufficient density of gas collectors for compliance with § 60.33f(b)(2)(ii), the owner or operator must design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

(3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with § 60.33f(b)(2)(iii), the owner or operator must measure gauge pressure in the gas collection header applied to each individual well monthly. If a positive pressure exists, action must be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under § 60.34f(b). Any attempted corrective measure must not cause exceedances of other operational or performance standards.

(i) If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement of positive pressure, the owner or operator must conduct a root cause analysis and correct the exceedance as soon as practicable, but not later than 60 days after positive pressure was first measured. The owner or operator must keep records according to § 60.39f(e)(3).

(ii) If corrective actions cannot be fully implemented within 60 days following the positive pressure or elevated temperature measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit) or positive pressure. The owner or operator must submit the items listed in § 60.38f(h)(7) as part of the next annual report. The owner or operator must keep records according to § 60.39f(e)(4).

(iii) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to § 60.38f(h)(7) and (k). The owner or operator must keep records according to § 60.39f(e)(5).

(4) [Reserved]

(5) For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator must monitor each well monthly for temperature as provided in § 60.34f(c). If a well exceeds the operating parameter for temperature, action must be initiated to correct the exceedance within 5 calendar days. Any attempted corrective measure must not cause exceedances of other operational or performance standards.

(i) If a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit) cannot be achieved within 15 calendar days of the first measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit), the owner or operator must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit) was first measured. The owner or operator must keep records according to § 60.39f(e)(3).

(ii) If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit). The owner or operator must submit the items listed in § 60.38f(h)(7) as part of the next annual report. The owner or operator must keep records according to § 60.39f(e)(4).

(iii) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to § 60.38f(h)(7) and (k). The owner or operator must keep records according to § 60.39f(e)(5).

(6) An owner or operator seeking to demonstrate compliance with § 60.33f(b)(2)(iv) through the use of a collection system not conforming to the specifications provided in § 60.40f must provide information satisfactory to the Administrator as specified in § 60.38f(d)(3) demonstrating that off-site migration is being controlled.

(b) For purposes of compliance with § 60.34f(a), each owner or operator of a controlled landfill must place each well or design component as specified in the approved design plan as provided in § 60.38f(d). Each well must be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of:

(1) Five (5) years or more if active; or

(2) Two (2) years or more if closed or at final grade.

(c) The following procedures must be used for compliance with the surface methane operational standard as provided in § 60.34f(d):

(1) After installation and startup of the gas collection system, the owner or operator must monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in paragraph (d) of this section.

(2) The background concentration must be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

(3) Surface emission monitoring must be performed in accordance with section 8.3.1 of Method 21 of appendix A of this part, except that the probe inlet must be placed within 5 to 10 centimeters of the ground. Monitoring must be performed during typical meteorological conditions.

(4) Any reading of 500 parts per million or more above background at any location must be recorded as a monitored exceedance and the actions specified in paragraphs (c)(4)(i) through (v) of this section must be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of § 60.34f(d).

(i) The location of each monitored exceedance must be marked and the location and concentration recorded. For location, you must determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

(ii) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 calendar days of detecting the exceedance.

(iii) If the re-monitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in paragraph (c)(4)(v) of this section must be taken, and no further monitoring of that location is required until the action specified in paragraph (c)(4)(v) of this section has been taken.

(iv) Any location that initially showed an exceedance but has a methane concentration less than 500 parts per million methane above background at the 10-day re-monitoring specified in paragraph (c)(4)(ii) or (iii) of this section must be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million

above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in paragraph (c)(4)(iii) or (v) of this section must be taken.

(v) For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device must be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval.

(5) The owner or operator must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

(d) Each owner or operator seeking to comply with the provisions in paragraph (c) of this section or § 60.35f(a)(6) must comply with the following instrumentation specifications and procedures for surface emission monitoring devices:

(1) The portable analyzer must meet the instrument specifications provided in section 6 of Method 21 of appendix A of this part, except that “methane” replaces all references to “VOC”.

(2) The calibration gas must be methane, diluted to a nominal concentration of 500 parts per million in air.

(3) To meet the performance evaluation requirements in section 8.1 of Method 21 of appendix A of this part, the instrument evaluation procedures of section 8.1 of Method 21 must be used.

(4) The calibration procedures provided in sections 8 and 10 of Method 21 of appendix A of this part must be followed immediately before commencing a surface monitoring survey.

(e) The provisions of this subpart apply at all times, including periods of startup, shutdown, or malfunction. During periods of startup, shutdown, and malfunction, you must comply with the work practice specified in § 60.34f(e) in lieu of the compliance provisions in § 60.36f.

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This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 60 —Standards of Performance for New Stationary Sources
Subpart Cf —Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

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Authority: 42 U.S.C. 7401 *et seq.*
Source: 36 FR 24877, Dec. 23, 1971, unless otherwise noted.

§ 60.37f Monitoring of operations.

For approval, a state plan must include the monitoring provisions in this section, (as well as the provisions in §§ 60.34f and 60.36f) except as provided in § 60.38f(d)(2), or the monitoring provisions in § 63.1961 of this chapter (as well as the provisions in §§ 63.1958 of this chapter and 63.1960 of this chapter), or both as alternative means of compliance, for an MSW landfill with a gas collection and control system used to comply with the provisions of § 60.33f(b) and (c). Once the owner or operator begins to comply with the provisions of § 63.1961 of this chapter, the owner or operator must continue to operate the collection and control device according to those provisions and cannot return to the provisions of this section.

(a) Each owner or operator seeking to comply with § 60.33f(b)(2) for an active gas collection system must install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and:

(1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in § 60.36f(a)(3); and

(2) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as follows:

(i) The nitrogen level must be determined using Method 3C, unless an alternative test method is established as allowed by § 60.38f(d)(2).

(ii) Unless an alternative test method is established as allowed by § 60.38f(d)(2), the oxygen level must be determined by an oxygen meter using Method 3A, 3C, or ASTM D6522–11 (incorporated by reference, see § 60.17). Determine the oxygen level by an oxygen meter using Method 3A, 3C, or ASTM D6522–11 (if sample location is prior to combustion) except that:

(A) The span must be set between 10 and 12 percent oxygen;

(B) A data recorder is not required;

(C) Only two calibration gases are required, a zero and span;

(D) A calibration error check is not required; and

(E) The allowable sample bias, zero drift, and calibration drift are ±10 percent.

(iii) A portable gas composition analyzer may be used to monitor the oxygen levels provided:

(A) The analyzer is calibrated; and

(B) The analyzer meets all quality assurance and quality control requirements for Method 3A or ASTM D6522–11 (incorporated by reference, see § 60.17).

(3) Monitor temperature of the landfill gas on a monthly basis as provided in § 60.36f(a)(5). The temperature measuring device must be calibrated annually using the procedure in this part 60, appendix A–1, Method 2, Section 10.3.

(b) Each owner or operator seeking to comply with § 60.33f(c) using an enclosed combustor must calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment:

(1) A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees Celsius, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.

(2) A device that records flow to the control device and bypass of the control device (if applicable). The owner or operator must:

(i) Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every 15 minutes; and

(ii) Secure the 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 must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(c) Each owner or operator seeking to comply with § 60.33f(c) using a non-enclosed flare must install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

(1) A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.

(2) A device that records flow to the flare and bypass of the flare (if applicable). The owner or operator must:

(i) Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the control device at least every 15 minutes; and

(ii) Secure the 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 must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(d) Each owner or operator seeking to demonstrate compliance with § 60.33f(c) using a device other than a non-enclosed flare or an enclosed combustor or a treatment system must provide information satisfactory to the Administrator as provided in § 60.38f(d)(2) describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator must review the information and either approve it, or request that additional information be submitted. The Administrator may specify additional appropriate monitoring procedures.

(e) Each owner or operator seeking to install a collection system that does not meet the specifications in § 60.40f or seeking to monitor alternative parameters to those required by §§ 60.34f through 60.37f must provide information satisfactory to the Administrator as provided in § 60.38f(d)(2) and (3) describing the

design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator may specify additional appropriate monitoring procedures.

(f) Each owner or operator seeking to demonstrate compliance with the 500 parts per million surface methane operational standard in § 60.34f(d) must monitor surface concentrations of methane according to the procedures provided in § 60.36f(c) and the instrument specifications in § 60.36f(d). Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 parts per million or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

(g) Each owner or operator seeking to demonstrate compliance with the control system requirements in § 60.33f(c) using a landfill gas treatment system must maintain and operate all monitoring systems associated with the treatment system in accordance with the site-specific treatment system monitoring plan required in § 60.39f(b)(5)(ii) and must calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to the treatment system and bypass of the treatment system (if applicable). The owner or operator must:

(1) Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the treatment system at least every 15 minutes; and

(2) Secure the 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 must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(h) The monitoring requirements of paragraphs (b), (c) (d) and (g) of this section apply at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable.

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This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 60 —Standards of Performance for New Stationary Sources
Subpart Cf —Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

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Source: 36 FR 24877, Dec. 23, 1971, unless otherwise noted.

§ 60.38f Reporting guidelines.

For approval, a state plan must include the reporting provisions listed in this section, as applicable, except as provided under §§ 60.24 and 60.38f(d)(2).

(a) ***Design capacity report.*** For existing MSW landfills subject to this subpart, the initial design capacity report must be submitted no later than 90 days after the effective date of EPA approval of the state's plan under section 111(d) of the Clean Air Act. The initial design capacity report must contain the following information:

(1) A map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be landfilled according to the permit issued by the state, local, or tribal agency responsible for regulating the landfill.

(2) The maximum design capacity of the landfill. Where the maximum design capacity is specified in the permit issued by the state, local, or tribal agency responsible for regulating the landfill, a copy of the permit specifying the maximum design capacity may be submitted as part of the report. If the maximum design capacity of the landfill is not specified in the permit, the maximum design capacity must be calculated using good engineering practices. The calculations must be provided, along with the relevant parameters as part of the report. The landfill may calculate design capacity in either megagrams or cubic meters for comparison with the exemption values. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, the calculation must include a site-specific density, which must be recalculated annually. Any density conversions must be documented and submitted with the design capacity report. The state, local, or tribal agency or the Administrator may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.

(b) ***Amended design capacity report.*** An amended design capacity report must be submitted providing notification of an increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to meet or exceed 2.5 million megagrams and 2.5 million cubic meters. This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in § 60.39f(f).

(c) ***NMOC emission rate report.*** For existing MSW landfills covered by this subpart with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, the NMOC emission rate report must be submitted following the procedure specified in paragraph (j)(2) of this section no later than 90 days after the effective date of EPA approval of the state's plan under section 111(d) of the Clean

Air Act. The NMOC emission rate report must be submitted to the Administrator annually following the procedure specified in paragraph (j)(2) of this section, except as provided for in paragraph (c)(3) of this section. The Administrator may request such additional information as may be necessary to verify the reported NMOC emission rate.

(1) The NMOC emission rate report must contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in § 60.35f(a) or (b), as applicable.

(2) The NMOC emission rate report must include all the data, calculations, sample reports and measurements used to estimate the annual or 5-year emissions.

(3) If the estimated NMOC emission rate as reported in the annual report to the Administrator is less than 34 megagrams per year in each of the next 5 consecutive years, the owner or operator may elect to submit, following the procedure specified in paragraph (j)(2) of this section, an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual report. This estimate must include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years for which an NMOC emission rate is estimated. All data and calculations upon which this estimate is based must be provided to the Administrator. This estimate must be revised at least once every 5 years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the 5-year estimate, a revised 5-year estimate must be submitted to the Administrator. The revised estimate must cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate.

(4) Each owner or operator subject to the requirements of this subpart is exempted from the requirements to submit an NMOC emission rate report, after installing a collection and control system that complies with § 60.33f(b) and (c), during such time as the collection and control system is in operation and in compliance with §§ 60.34f and 60.36f.

(d) ***Collection and control system design plan.*** The state plan must include a process for state review and approval of the site-specific design plan for each gas collection and control system. The collection and control system design plan must be prepared and approved by a professional engineer and must meet the following requirements:

(1) The collection and control system as described in the design plan must meet the design requirements in § 60.33f(b) and (c).

(2) The collection and control system design plan must include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions of §§ 60.34f through 60.39f proposed by the owner or operator.

(3) The collection and control system design plan must either conform to specifications for active collection systems in § 60.40f or include a demonstration to the Administrator's satisfaction of the sufficiency of the alternative provisions to § 60.40f.

(4) Each owner or operator of an MSW landfill having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters must submit a copy of the collection and control system design plan cover page that contains the engineer's seal to the Administrator within 1 year of the first NMOC emission rate report in which the NMOC emission rate equals or exceeds 34 megagrams per year, except as follows:

(i) If the owner or operator elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis as provided in § 60.35f(a)(3) and the resulting rate is less than 34 megagrams per year, annual periodic reporting must be resumed, using the Tier 2 determined site-specific NMOC concentration, until the calculated NMOC emission rate is equal to or greater than 34 megagrams per year or the landfill is closed. The revised NMOC emission rate report, with the recalculated NMOC emission rate based on NMOC sampling and analysis, must be submitted, following the procedures in paragraph (j)(2) of this section, within 180 days of the first calculated exceedance of 34 megagrams per year.

(ii) If the owner or operator elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant k, as provided in Tier 3 in § 60.35f(a)(4), and the resulting NMOC emission rate is less than 34 megagrams per year, annual periodic reporting must be resumed. The resulting site-specific methane generation rate constant k must be used in the NMOC emission rate calculation until such time as the emissions rate calculation results in an exceedance. The revised NMOC emission rate report based on the provisions of § 60.35f(a)(4) and the resulting site-specific methane generation rate constant k must be submitted, following the procedure specified in paragraph (j)(2) of this section, to the Administrator within 1 year of the first calculated NMOC emission rate equaling or exceeding 34 megagrams per year.

(iii) If the owner or operator elects to demonstrate that site-specific surface methane emissions are below 500 parts per million methane, based on the provisions of § 60.35f(a)(6), then the owner or operator must submit annually a Tier 4 surface emissions report as specified in this paragraph (d)(4)(iii) following the procedure specified in paragraph (j)(2) of this section until a surface emissions readings of 500 parts per million methane or greater is found. If the Tier 4 surface emissions report shows no surface emissions readings of 500 parts per million methane or greater for four consecutive quarters at a closed landfill, then the landfill owner or operator may reduce Tier 4 monitoring from a quarterly to an annual frequency. The Administrator may request such additional information as may be necessary to verify the reported instantaneous surface emission readings. The Tier 4 surface emissions report must clearly identify the location, date and time (to the nearest second), average wind speeds including wind gusts, and reading (in parts per million) of any value 500 parts per million methane or greater, other than non-repeatable, momentary readings. For location, you must determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places. The Tier 4 surface emission report should also include the results of the most recent Tier 1 and Tier 2 results in order to verify that the landfill does not exceed 50 Mg/yr of NMOC.

(A) The initial Tier 4 surface emissions report must be submitted annually, starting within 30 days of completing the fourth quarter of Tier 4 surface emissions monitoring that demonstrates that site-specific surface methane emissions are below 500 parts per million methane, and following the procedure specified in paragraph (j)(2) of this section.

(B) The Tier 4 surface emissions rate report must be submitted within 1 year of the first measured surface exceedance of 500 parts per million methane, following the procedure specified in paragraph (j)(2) of this section.

(iv) If the landfill is in the closed landfill subcategory, the owner or operator must submit a collection and control system design plan to the Administrator within 1 year of the first NMOC emission rate report in which the NMOC emission rate equals or exceeds 50 megagrams per year, except as follows:

(A) If the owner or operator elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis as provided in § 60.35f(a)(3) and the resulting rate is less than 50 megagrams per year, annual periodic reporting must be resumed, using the Tier 2 determined site-specific NMOC concentration, until the calculated NMOC emission rate is equal to or greater than 50 megagrams per year or the landfill is closed. The revised NMOC emission rate report, with the recalculated NMOC emission rate based on NMOC sampling and analysis, must be submitted, following the procedure specified in paragraph (j)(2) of this section, within 180 days of the first calculated exceedance of 50 megagrams per year.

(B) If the owner or operator elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant k, as provided in Tier 3 in § 60.35f(a)(4), and the resulting NMOC emission rate is less than 50 megagrams per year, annual periodic reporting must be resumed. The resulting site-specific methane generation rate constant k must be used in the NMOC emission rate calculation until such time as the emissions rate calculation results in an exceedance. The revised NMOC emission rate report based on the provisions of § 60.35f(a)(4) and the resulting site-specific methane generation rate constant k must be submitted, following the procedure specified in paragraph (j)(2) of this section, to the Administrator within 1 year of the first calculated NMOC emission rate equaling or exceeding 50 megagrams per year.

(C) The landfill owner or operator elects to demonstrate surface emissions are low, consistent with the provisions in paragraph (d)(4)(iii) of this section.

(D) The landfill has already submitted a gas collection and control system design plan consistent with the provisions of subpart WWW of this part; 40 CFR part 62, subpart GGG; or a state plan implementing subpart Cc of this part.

(5) The landfill owner or operator must notify the Administrator that the design plan is completed and submit a copy of the plan's signature page. The Administrator has 90 days to decide whether the design plan should be submitted for review. If the Administrator chooses to review the plan, the approval process continues as described in paragraph (c)(6) of this section. However, if the Administrator indicates that submission is not required or does not respond within 90 days, the landfill owner or operator can continue to implement the plan with the recognition that the owner or operator is proceeding at their own risk. In the event that the design plan is required to be modified to obtain approval, the owner or operator must take any steps necessary to conform any prior actions to the approved design plan and any failure to do so could result in an enforcement action.

(6) Upon receipt of an initial or revised design plan, the Administrator must review the information submitted under paragraphs (d)(1) through (3) of this section and either approve it, disapprove it, or request that additional information be submitted. Because of the many site-specific factors involved with landfill gas system design, alternative systems may be necessary. A wide variety of system designs are possible, such as vertical wells, combination horizontal and vertical collection systems, or horizontal trenches only, leachate collection components, and passive systems. If the

Administrator does not approve or disapprove the design plan, or does not request that additional information be submitted within 90 days of receipt, then the owner or operator may continue with implementation of the design plan, recognizing they would be proceeding at their own risk.

(7) If the owner or operator chooses to demonstrate compliance with the emission control requirements of this subpart using a treatment system as defined in this subpart, then the owner or operator must prepare a site-specific treatment system monitoring plan as specified in § 60.39f(b)(5).

(e) ***Revised design plan.*** The owner or operator who has already been required to submit a design plan under paragraph (d) of this section, or under subpart WWW of this part; 40 CFR part 62, subpart GGG; or a state plan implementing subpart Cc of this part, must submit a revised design plan to the Administrator for approval as follows:

(1) At least 90 days before expanding operations to an area not covered by the previously approved design plan.

(2) Prior to installing or expanding the gas collection system in a way that is not consistent with the design plan that was submitted to the Administrator according to paragraph (d) of this section.

(f) ***Closure report.*** Each owner or operator of a controlled landfill must submit a closure report to the Administrator within 30 days of ceasing waste acceptance. The Administrator may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under § 60.7(a)(4).

(g) ***Equipment removal report.*** Each owner or operator of a controlled landfill must submit an equipment removal report to the Administrator 30 days prior to removal or cessation of operation of the control equipment.

(1) The equipment removal report must contain the following items:

(i) A copy of the closure report submitted in accordance with paragraph (f) of this section; and

(ii) A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired, unless the report of the results of the performance test has been submitted to the EPA via the EPA's CDX, or information that demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX; and

(iii) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 34 megagrams or greater of NMOC per year, unless the NMOC emission rate reports have been submitted to the EPA via the EPA's CDX. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports; or

(iv) For the closed landfill subcategory, dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year, unless the NMOC emission rate reports have been submitted to the EPA via the

EPA's CDX. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports.

(2) The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in § 60.33f(f) have been met.

(h) ***Annual report.*** The owner or operator of a landfill seeking to comply with § 60.33f(e)(2) using an active collection system designed in accordance with § 60.33f(b) must submit to the Administrator, following the procedures specified in paragraph (j)(2) of this section, an annual report of the recorded information in paragraphs (h)(1) through (7) of this section. The initial annual report must be submitted within 180 days of installation and startup of the collection and control system. The initial annual report must include the initial performance test report required under § 60.8, as applicable, unless the report of the results of the performance test has been submitted to the EPA via the EPA's CDX. In the initial annual report, the process unit(s) tested, the pollutant(s) tested and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX. The initial performance test report must be submitted, following the procedure specified in paragraph (j)(1) of this section, no later than the date that the initial annual report is submitted. For enclosed combustion devices and flares, reportable exceedances are defined under § 60.39f(c)(1). If complying with the operational provisions of §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed at §§ 60.34f, 60.36f, and 60.37f, the owner or operator must follow the semi-annual reporting requirements in § 63.1981(h) of this chapter in lieu of this paragraph.

(1) Value and length of time for exceedance of applicable parameters monitored under § 60.37f(a)(1), (b), (c), (d), and (g).

(2) Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under § 60.37f.

(3) Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.

(4) All periods when the collection system was not operating.

(5) The location of each exceedance of the 500 parts per million methane concentration as provided in § 60.34f(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. For location, you must determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

(6) The date of installation and the location of each well or collection system expansion added pursuant to § 60.36f(a)(3), (a)(5), (b), and (c)(4).

(7) For any corrective action analysis for which corrective actions are required in § 60.36f(a)(3) or (5) and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or elevated temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

(i) ***Initial performance test report.*** Each owner or operator seeking to comply with § 60.33f(c) must include the following information with the initial performance test report required under § 60.8:

(1) A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;

(2) The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;

(3) The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material;

(4) The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area;

(5) The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; and

(6) The provisions for the control of off-site migration.

(j) ***Electronic reporting.*** The owner or operator must submit reports electronically according to paragraphs (j)(1) and (2) of this section.

(1) Within 60 days after the date of completing each performance test (as defined in § 60.8), the owner or operator must submit the results of each performance test according to the following procedures:

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*https://www3.epa.gov/ttn/chief/ert/ert_info.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternative file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site, once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/ OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (j)(1)(i).

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 60.4.

(2) Each owner or operator required to submit reports following the procedure specified in this paragraph must submit reports to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) The owner or operator must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI Web site (*https://www3.epa.gov/ttn/chief/cedri/index.html*). If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the owner or operator must submit the report to the Administrator at the appropriate address listed in § 60.4. Once the form has been available in CEDRI for 90 calendar days, the owner or operator must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted.

(k) ***Corrective action and the corresponding timeline.*** The owner or operator must submit according to paragraphs (k)(1) and (2) of this section. If complying with the operational provisions of §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed at §§ 60.34f, 60.36f, and 60.37f, the owner or operator must follow the corrective action and the corresponding timeline reporting requirements in § 63.1981(j) of this chapter in lieu of paragraphs (k)(1) and (2) of this section.

(1) For corrective action that is required according to § 60.36f(a)(3)(iii) or (a)(5)(iii) and is expected to take longer than 120 days after the initial exceedance to complete, you must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above. The Administrator must approve the plan for corrective action and the corresponding timeline.

(2) For corrective action that is required according to § 60.36f(a)(3)(iii) or (a)(5)(iii) and is not completed within 60 days after the initial exceedance, you must submit a notification to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance.

(l) ***Liquids addition.*** The owner or operator of an affected landfill with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters that has employed leachate recirculation or added liquids based on a Research, Development, and Demonstration permit (issued through Resource Conservation and Recovery Act, subtitle D, part 258) within the last 10 years must submit to the Administrator, annually, following the procedure specified in paragraph (j)(2) of this section, the following information:

(1) Volume of leachate recirculated (gallons per year) and the reported basis of those estimates (records or engineering estimates).

(2) Total volume of all other liquids added (gallons per year) and the reported basis of those estimates (records or engineering estimates).

(3) Surface area (acres) over which the leachate is recirculated (or otherwise applied).

(4) Surface area (acres) over which any other liquids are applied.

(5) The total waste disposed (megagrams) in the areas with recirculated leachate and/or added liquids based on on-site records to the extent data are available, or engineering estimates and the reported basis of those estimates.

(6) The annual waste acceptance rates (megagrams per year) in the areas with recirculated leachate and/or added liquids, based on on-site records to the extent data are available, or engineering estimates.

(7) The initial report must contain items in paragraph (l)(1) through (6) of this section per year for the most recent 365 days as well as for each of the previous 10 years, to the extent historical data are available in on-site records, and the report must be submitted no later than:

(i) September 27, 2017, for landfills that commenced construction, modification, or reconstruction after July 17, 2014 but before August 29, 2016; or

(ii) 365 days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction after August 29, 2016.

(8) Subsequent annual reports must contain items in paragraph (l)(1) through (6) of this section for the 365-day period following the 365-day period included in the previous annual report, and the report must be submitted no later than 365 days after the date the previous report was submitted.

(9) Landfills in the closed landfill subcategory are exempt from reporting requirements contained in paragraphs (l)(1) through (7) of this section.

(10) Landfills may cease annual reporting of items in paragraphs (l)(1) through (6) of this section once they have submitted the closure report in § 60.38f(f).

(m) ***Tier 4 notification.***

(1) The owner or operator of an affected landfill with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters must provide a notification of the date(s) upon which it intends to demonstrate site-specific surface methane emissions are below 500 parts per million methane, based on the Tier 4 provisions of § 60.35f(a)(6). The landfill must also include a description of the wind barrier to be used during the SEM in the notification. Notification must be postmarked not less than 30 days prior to such date.

(2) If there is a delay to the scheduled Tier 4 SEM date due to weather conditions, including not meeting the wind requirements in § 60.35f (a)(6)(iii)(A), the owner or operator of a landfill shall notify the Administrator by email or telephone no later than 48 hours before any known delay in the original test date, and arrange an updated date with the Administrator by mutual agreement.

(n) Each owner or operator that chooses to comply with the provisions in §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed in §§ 60.34f, 60.36f, and 60.37f, must submit the 24-hour high temperature report according to § 63.1981(k) of this chapter.

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Title 40 —Protection of Environment
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Part 60 —Standards of Performance for New Stationary Sources
Subpart Cf —Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

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Source: 36 FR 24877, Dec. 23, 1971, unless otherwise noted.

§ 60.39f Recordkeeping guidelines.

For approval, a state plan must include the recordkeeping provisions in this section.

(a) Except as provided in § 60.38f(d)(2), each owner or operator of an MSW landfill subject to the provisions of § 60.33f(e) must keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report that triggered § 60.33f(e), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

(b) Except as provided in § 60.38f(d)(2), each owner or operator of a controlled landfill must keep up-to-date, readily accessible records for the life of the control system equipment of the data listed in paragraphs (b)(1) through (5) of this section as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. Records of the control device vendor specifications must be maintained until removal.

(1) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.33f(b):

(i) The maximum expected gas generation flow rate as calculated in § 60.36f(a)(1). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Administrator.

(ii) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in § 60.40f(a)(1).

(2) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.33f(c) through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts:

(i) The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test.

(ii) The percent reduction of NMOC determined as specified in § 60.33f(c)(2) achieved by the control device.

(3) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.33f(c)(2)(i) through use of a boiler or process heater of any size: A description of the location at which the collected gas vent stream is introduced into the boiler or process heater over the same time period of the performance testing.

(4) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.33f(c)(1) through use of a non-enclosed flare, the flare type (*i.e.,* steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in § 60.18; and continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame or the flare flame is absent.

(5) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.33f(c)(3) through use of a landfill gas treatment system:

(i) ***Bypass records.*** Records of the flow of landfill gas to, and bypass of, the treatment system.

(ii) ***Site-specific treatment monitoring plan,*** to include:

(A) Monitoring records of parameters that are identified in the treatment system monitoring plan and that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. At a minimum, records should include records of filtration, de-watering, and compression parameters that ensure the treatment system is operating properly for each intended end use of the treated landfill gas.

(B) Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.

(C) Documentation of the monitoring methods and ranges, along with justification for their use.

(D) Identify who is responsible (by job title) for data collection.

(E) Processes and methods used to collect the necessary data.

(F) Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems.

(c) Except as provided in § 60.38f(d)(2), each owner or operator of a controlled landfill subject to the provisions of this subpart must keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in § 60.37f as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

(1) The following constitute exceedances that must be recorded and reported under § 60.38f:

(i) For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average temperature was more than 28 degrees Celsius (82 degrees Fahrenheit) below the average combustion temperature during the most recent performance test at which compliance with § 60.33f(c) was determined.

(ii) For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under paragraph (b)(3) of this section.

(2) Each owner or operator subject to the provisions of this subpart must keep up-to-date, readily accessible continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under § 60.37f.

(3) Each owner or operator subject to the provisions of this subpart who uses a boiler or process heater with a design heat input capacity of 44 megawatts or greater to comply with § 60.33f(c) must keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other state, local, tribal, or federal regulatory requirements.)

(4) Each owner or operator seeking to comply with the provisions of this subpart by use of a non-enclosed flare must keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under § 60.37f(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

(5) Each owner or operator of a landfill seeking to comply with § 60.33f(e) using an active collection system designed in accordance with § 60.33f(b) must keep records of periods when the collection system or control device is not operating.

(d) Except as provided in § 60.38f(d)(2), each owner or operator subject to the provisions of this subpart must keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label on each collector that matches the labeling on the plot map.

(1) Each owner or operator subject to the provisions of this subpart must keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under § 60.36f(b).

(2) Each owner or operator subject to the provisions of this subpart must keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in § 60.40f(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in § 60.40f(a)(3)(ii).

(e) Except as provided in § 60.38f(d)(2), each owner or operator subject to the provisions of this subpart must keep for at least 5 years up-to-date, readily accessible records of the items in paragraphs (e)(1) through (5) of this section. Each owner or operator that chooses to comply with the provisions in §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed in §§ 60.34f, 60.36f, and 60.37f, must keep the records in paragraph (e)(6) of this section and must keep records according to § 63.1983(e)(1) through (5) of this chapter in lieu of paragraphs (e)(1) through (5) of this section.

(1) All collection and control system exceedances of the operational standards in § 60.34f, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

(2) Each owner or operator subject to the provisions of this subpart must also keep records of each wellhead temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above, each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent.

(3) For any root cause analysis for which corrective actions are required in § 60.36f(a)(3) or (5), keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed.

(4) For any root cause analysis for which corrective actions are required in § 60.36f(a)(3)(ii) or (a)(5)(ii), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

(5) For any root cause analysis for which corrective actions are required in § 60.36f(a)(3)(iii) or (a)(5)(iii), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the regulatory agency.

(6) Each owner or operator that chooses to comply with the provisions in §§ 63.1958, 63.1960, and 63.1961 of this chapter, as allowed in §§ 60.34f, 60.36f, and 60.37f, must keep records of the date upon which the owner or operator started complying with the provisions in §§ 63.1958, 63.1960, and 63.1961.

(f) Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of “design capacity”, must keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

(g) Landfill owners or operators seeking to demonstrate that site-specific surface methane emissions are below 500 parts per million by conducting surface emission monitoring under the Tier 4 procedures specified in § 60.35f(a)(6) must keep for at least 5 years up-to-date, readily accessible records of all surface emissions monitoring and information related to monitoring instrument calibrations conducted according to sections 8 and 10 of Method 21 of appendix A of this part, including all of the following items:

(1) Calibration records:

(i) Date of calibration and initials of operator performing the calibration.

(ii) Calibration gas cylinder identification, certification date, and certified concentration.

(iii) Instrument scale(s) used.

(iv) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value.

(v) If an owner or operator makes their own calibration gas, a description of the procedure used.

(2) Digital photographs of the instrument setup. The photographs must be time and date-stamped and taken at the first sampling location prior to sampling and at the last sampling location after sampling at the end of each sampling day, for the duration of the Tier 4 monitoring demonstration.

(3) Timestamp of each surface scan reading:

(i) Timestamp should be detailed to the nearest second, based on when the sample collection begins.

(ii) A log for the length of time each sample was taken using a stopwatch (*e.g.,* the time the probe was held over the area).

(4) Location of each surface scan reading. The owner or operator must determine the coordinates using an instrument with an accuracy of at least 4 meters. Coordinates must be in decimal degrees with at least five decimal places.

(5) Monitored methane concentration (parts per million) of each reading.

(6) Background methane concentration (parts per million) after each instrument calibration test.

(7) Adjusted methane concentration using most recent calibration (parts per million).

(8) For readings taken at each surface penetration, the unique identification location label matching the label specified in paragraph (d) of this section.

(9) Records of the operating hours of the gas collection system for each destruction device.

(h) Except as provided in § 60.38f(d)(2), each owner or operator subject to the provisions of this subpart must keep for at least 5 years up-to-date, readily accessible records of all collection and control system monitoring data for parameters measured in § 60.37f(a)(1), (2), and (3).

(i) Any records required to be maintained by this subpart that are submitted electronically via the EPA's CDX may be maintained in electronic format.

(j) For each owner or operator reporting leachate or other liquids addition under § 60.38f(l), keep records of any engineering calculations or company records used to estimate the quantities of leachate or liquids added, the surface areas for which the leachate or liquids were applied, and the estimates of annual waste acceptance or total waste in place in the areas where leachate or liquids were applied.

[81 FR 59313, Aug. 29, 2016, as amended at 85 FR 17260, Mar. 26, 2020]

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 60 —Standards of Performance for New Stationary Sources
Subpart Cf —Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

Source: 81 FR 59313, Aug. 29, 2016, unless otherwise noted.
Authority: 42 U.S.C. 7401 *et seq.*
Source: 36 FR 24877, Dec. 23, 1971, unless otherwise noted.

§ 60.40f Specifications for active collection systems.

For approval, a state plan must include the specifications for active collection systems in this section.

(a) Each owner or operator seeking to comply with § 60.33f(b) must site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Administrator.

(1) The collection devices within the interior must be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues must be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, resistance to the refuse decomposition heat, and ability to isolate individual components or sections for repair or troubleshooting without shutting down entire collection system.

(2) The sufficient density of gas collection devices determined in paragraph (a)(1) of this section must address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.

(3) The placement of gas collection devices determined in paragraph (a)(1) of this section must control all gas producing areas, except as provided by paragraphs (a)(3)(i) and (ii) of this section.

(i) Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under § 60.39f(d). The documentation must provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and must be provided to the Administrator upon request.

(ii) Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material must be documented and provided to the Administrator upon request. A separate NMOC emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the NMOC emissions estimate for the entire landfill.

(A) The NMOC emissions from each section proposed for exclusion must be computed using Equation 7:

$$Q_i = 2kL_oM_i(e^{-kt_i})(C_{NMOC})(3.6\ x\ 10^{-9}) \qquad \text{(Eq. 7)}$$

Where:

Q_i = NMOC emission rate from the i^{th} section, megagrams per year.

k = Methane generation rate constant, $year^{-1}$.

L_o = Methane generation potential, cubic meters per megagram solid waste.

M_i = Mass of the degradable solid waste in the i^{th} section, megagram.

t_i = Age of the solid waste in the i^{th} section, years.

C_{NMOC} = Concentration of NMOC, parts per million by volume.

3.6×10^{-9} = Conversion factor.

(B) If the owner or operator is proposing to exclude, or cease gas collection and control from, nonproductive physically separated (*e.g.,* separately lined) closed areas that already have gas collection systems, NMOC emissions from each physically separated closed area must be computed using either Equation 3 in § 60.35f or Equation 7 in paragraph (a)(3)(ii)(A) of this section.

(iii) The values for k and C_{NMOC} determined in field testing must be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (the distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, L_o, and C_{NMOC} provided in § 60.35f or the alternative values from § 60.35f must be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in paragraph (a)(3)(i) of this section.

(b) Each owner or operator seeking to comply with § 60.33f(b) must construct the gas collection devices using the following equipment or procedures:

(1) The landfill gas extraction components must be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: Convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system must extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors must be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations must be situated with regard to the need to prevent excessive air infiltration.

(2) Vertical wells must be placed so as not to endanger underlying liners and must address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors must be of sufficient cross-section so as to allow for their proper construction

and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices must be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

(3) Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly must include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

(c) Each owner or operator seeking to comply with § 60.33f(c) must convey the landfill gas to a control system in compliance with § 60.33f(c) through the collection header pipe(s). The gas mover equipment must be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures:

(1) For existing collection systems, the flow data must be used to project the maximum flow rate. If no flow data exist, the procedures in paragraph (c)(2) of this section must be used.

(2) For new collection systems, the maximum flow rate must be in accordance with § 60.36f(a)(1).

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 60 —Standards of Performance for New Stationary Sources
Subpart Cf —Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

Source: 81 FR 59313, Aug. 29, 2016, unless otherwise noted.
Authority: 42 U.S.C. 7401 *et seq.*
Source: 36 FR 24877, Dec. 23, 1971, unless otherwise noted.

§ 60.41f Definitions.

Terms used but not defined in this subpart have the meaning given them in the Clean Air Act and in subparts A and B of this part.

Active collection system means a gas collection system that uses gas mover equipment.

Active landfill means a landfill in which solid waste is being placed or a landfill that is planned to accept waste in the future.

Administrator means the Administrator of the U.S. Environmental Protection Agency or his/her authorized representative or the Administrator of a state air pollution control agency.

Closed area means a separately lined area of an MSW landfill in which solid waste is no longer being placed. If additional solid waste is placed in that area of the landfill, that landfill area is no longer closed. The area must be separately lined to ensure that the landfill gas does not migrate between open and closed areas.

Closed landfill means a landfill in which solid waste is no longer being placed, and in which no additional solid wastes will be placed without first filing a notification of modification as prescribed under § 60.7(a)(4). Once a notification of modification has been filed, and additional solid waste is placed in the landfill, the landfill is no longer closed.

Closed landfill subcategory means a closed landfill that has submitted a closure report as specified in § 60.38f(f) on or before September 27, 2017.

Closure means that point in time when a landfill becomes a closed landfill.

Commercial solid waste means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

Controlled landfill means any landfill at which collection and control systems are required under this subpart as a result of the NMOC emission rate. The landfill is considered controlled at the time a collection and control system design plan is prepared in compliance with § 60.33f(e)(2).

Corrective action analysis means a description of all reasonable interim and long-term measures, if any, that are available, and an explanation of why the selected corrective action(s) is/are the best alternative(s), including, but not limited to, considerations of cost effectiveness, technical feasibility, safety, and secondary impacts.

Design capacity means the maximum amount of solid waste a landfill can accept, as indicated in terms of volume or mass in the most recent permit issued by the state, local, or tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, the calculation must include a site-specific density, which must be recalculated annually.

Disposal facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

Emission rate cutoff means the threshold annual emission rate to which a landfill compares its estimated emission rate to determine if control under the regulation is required.

Enclosed combustor means an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. An enclosed flare is considered an enclosed combustor.

Flare means an open combustor without enclosure or shroud.

Gas mover equipment means the equipment (*i.e.,* fan, blower, compressor) used to transport landfill gas through the header system.

Gust means the highest instantaneous wind speed that occurs over a 3-second running average.

Household waste means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including, but not limited to, single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas). Household waste does not include fully segregated yard waste. Segregated yard waste means vegetative matter resulting exclusively from the cutting of grass, the pruning and/or removal of bushes, shrubs, and trees, the weeding of gardens, and other landscaping maintenance activities. Household waste does not include construction, renovation, or demolition wastes, even if originating from a household.

Industrial solid waste means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of the Resource Conservation and Recovery Act, parts 264 and 265 of this chapter. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Interior well means any well or similar collection component located inside the perimeter of the landfill waste. A perimeter well located outside the landfilled waste is not an interior well.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile as those terms are defined under § 257.2 of this title.

Lateral expansion means a horizontal expansion of the waste boundaries of an existing MSW landfill. A lateral expansion is not a modification unless it results in an increase in the design capacity of the landfill.

Leachate recirculation means the practice of taking the leachate collected from the landfill and reapplying it to the landfill by any of one of a variety of methods, including pre-wetting of the waste, direct discharge into the working face, spraying, infiltration ponds, vertical injection wells, horizontal gravity distribution systems, and pressure distribution systems.

Modification means an increase in the permitted volume design capacity of the landfill by either lateral or vertical expansion based on its permitted design capacity as of July 17, 2014. Modification does not occur until the owner or operator commences construction on the lateral or vertical expansion.

Municipal solid waste landfill or *MSW landfill* means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. An MSW landfill may also receive other types of Resource Conservation and Recovery Act (RCRA) Subtitle D wastes (§ 257.2 of this title) such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned. An MSW landfill may be a new MSW landfill, an existing MSW landfill, or a lateral expansion.

Municipal solid waste landfill emissions or *MSW landfill emissions* means gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste.

NMOC means nonmethane organic compounds, as measured according to the provisions of § 60.35f.

Nondegradable waste means any waste that does not decompose through chemical breakdown or microbiological activity. Examples are, but are not limited to, concrete, municipal waste combustor ash, and metals.

Passive collection system means a gas collection system that solely uses positive pressure within the landfill to move the gas rather than using gas mover equipment.

Protectorate means American Samoa, the Commonwealth of Puerto Rico, the District of Columbia, Guam, the Northern Mariana Islands, and the Virgin Islands.

Root cause analysis means an assessment conducted through a process of investigation to determine the primary cause, and any other contributing causes, of positive pressure at a wellhead.

Sludge means the term sludge as defined in 40 CFR 258.2.

Solid waste means the term solid waste as defined in 40 CFR 258.2.

State means any of the 50 United States and the protectorates of the United States.

State plan means a plan submitted pursuant to section 111(d) of the Clean Air Act and subpart B of this part that implements and enforces this subpart.

Sufficient density means any number, spacing, and combination of collection system components, including vertical wells, horizontal collectors, and surface collectors, necessary to maintain emission and migration control as determined by measures of performance set forth in this part.

Sufficient extraction rate means a rate sufficient to maintain a negative pressure at all wellheads in the collection system without causing air infiltration, including any wellheads connected to the system as a result of expansion or excess surface emissions, for the life of the blower.

Treated landfill gas means landfill gas processed in a treatment system as defined in this subpart.

Treatment system means a system that filters, de-waters, and compresses landfill gas for sale or beneficial use.

Untreated landfil l gas means any landfill gas that is not treated landfill gas.

Appendix B:

40 C.F.R. Part 63, Subpart AAAA

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 63 —National Emission Standards for Hazardous Air Pollutants for Source Categories

Authority: 42 U.S.C. 7401 *et seq.*

Source: 57 FR 61992, Dec. 29, 1992, unless otherwise noted.

Subpart AAAA National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

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Table 1 to Subpart AAAA of Part 63

Applicability of NESHAP General Provisions to Subpart AAAA

Subpart AAAA—National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

Source: 85 FR 17261, Mar. 26, 2020, unless otherwise noted.

WHAT THIS SUBPART COVERS

§ 63.1930 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants for existing and new municipal solid waste (MSW) landfills.

(a) Before September 28, 2021, all landfills described in § 63.1935 must meet the requirements of 40 CFR part 60, subpart WWW, or an approved state or federal plan that implements 40 CFR part 60, subpart Cc, and requires timely control of bioreactors and additional reporting requirements. Landfills must also meet the startup, shutdown, and malfunction (SSM) requirements of the general provisions as specified in Table 1 to subpart AAAA of this part and must demonstrate compliance with the operating conditions by parameter monitoring results that are within the specified ranges. Specifically, landfills must meet the following requirements of this subpart that apply before September 28, 2021, as set out in: §§ 63.1955(a), 63.1955(b), 63.1965(a), 63.1965(c), 63.1975, 63.1981(a), 63.1981(b), and 63.1982, and the definitions of "Controlled landfill" and "Deviation" in § 63.1990.

(b) Beginning no later than September 27, 2021, all landfills described in § 63.1935 must meet the requirements of this subpart. A landfill may choose to meet the requirements of this subpart rather than the requirements identified in § 63.1930(a) at any time before September 27, 2021. The requirements of this subpart apply at all times, including during periods of SSM, and the SSM requirements of the General Provisions of this part do not apply.

§ 63.1935 Am I subject to this subpart?

You are subject to this subpart if you meet the criteria in paragraph (a) or (b) of this section.

(a) You are subject to this subpart if you own or operate an MSW landfill that has accepted waste since November 8, 1987, or has additional capacity for waste deposition and meets any one of the three criteria in paragraphs (a)(1) through (3) of this section:

(1) Your MSW landfill is a major source as defined in § 63.2 of subpart A.

(2) Your MSW landfill is collocated with a major source as defined in § 63.2 of subpart A.

(3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to § 63.1959.

(b) You are subject to this subpart if you own or operate an MSW landfill that has accepted waste since November 8, 1987, or has additional capacity for waste deposition, that includes a bioreactor, as defined in § 63.1990, and that meets any one of the criteria in paragraphs (b)(1) through (3) of this section:

(1) Your MSW landfill is a major source as defined in § 63.2 of subpart A.

(2) Your MSW landfill is collocated with a major source as defined in § 63.2 of subpart A.

(3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m^3 and that is not permanently closed as of January 16, 2003.

§ 63.1940 What is the affected source of this subpart?

(a) An affected source of this subpart is an MSW landfill, as defined in § 63.1990, that meets the criteria in § 63.1935(a) or (b). The affected source includes the entire disposal facility in a contiguous geographic space where household waste is placed in or on land, including any portion of the MSW landfill operated as a bioreactor.

(b) A new affected source of this subpart is an affected source that commenced construction or reconstruction after November 7, 2000. An affected source is reconstructed if it meets the definition of reconstruction in § 63.2 of subpart A.

(c) An affected source of this subpart is existing if it is not new.

§ 63.1945 When do I have to comply with this subpart?

(a) If your landfill is a new affected source, you must comply with this subpart by January 16, 2003, or at the time you begin operating, whichever is later.

(b) If your landfill is an existing affected source, you must comply with this subpart by January 16, 2004.

§ 63.1947 When do I have to comply with this subpart if I own or operate a bioreactor?

You must comply with this subpart by the dates specified in § 63.1945(a) or (b). If you own or operate a bioreactor located at a landfill that is not permanently closed as of January 16, 2003, and has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m^3, then you must install and operate a collection and control system that meets the criteria in § 63.1959(b)(2) according to the schedule specified in paragraph (a), (b), or (c) of this section.

(a) If your bioreactor is at a new affected source, then you must meet the requirements in paragraphs (a)(1) and (2) of this section:

(1) Install the gas collection and control system for the bioreactor before initiating liquids addition.

(2) Begin operating the gas collection and control system within 180 days after initiating liquids addition or within 180 days after achieving a moisture content of 40 percent by weight, whichever is later. If you choose to begin gas collection and control system operation 180 days after achieving a 40-percent moisture content instead of 180 days after liquids addition, use the procedures in §§ 63.1982(c) and (d) to determine when the bioreactor moisture content reaches 40 percent.

(b) If your bioreactor is at an existing affected source, then you must install and begin operating the gas collection and control system for the bioreactor by January 17, 2006, or by the date your bioreactor is required to install a gas collection and control system under 40 CFR part 60, subpart WWW; a federal plan; or an EPA-approved and effective state plan or tribal plan that applies to your landfill, whichever is earlier.

(c) If your bioreactor is at an existing affected source and you do not initiate liquids addition to your bioreactor until later than January 17, 2006, then you must meet the requirements in paragraphs (c)(1) and (2) of this section:

(1) Install the gas collection and control system for the bioreactor before initiating liquids addition.

(2) Begin operating the gas collection and control system within 180 days after initiating liquids addition or within 180 days after achieving a moisture content of 40 percent by weight, whichever is later. If you choose to begin gas collection and control system operation 180 days after achieving a 40-percent moisture content instead of 180 days after liquids addition, use the procedures in §§ 63.1982(c) and (d) to determine when the bioreactor moisture content reaches 40 percent.

[85 FR 17261, Mar. 26, 2020, as amended at 85 FR 64400, Oct. 13, 2020]

§ 63.1950 When am I no longer required to comply with this subpart?

You are no longer required to comply with the requirements of this subpart when your landfill meets the collection and control system removal criteria in § 63.1957(b).

§ 63.1952 When am I no longer required to comply with the requirements of this subpart if I own or operate a bioreactor?

If you own or operate a landfill that includes a bioreactor, you are no longer required to comply with the requirements of this subpart for the bioreactor provided you meet the conditions of either paragraph (a) or (b) of this section.

(a) Your affected source meets the control system removal criteria in § 63.1950 or the bioreactor meets the criteria for a nonproductive area of the landfill in § 63.1962(a)(3)(ii).

(b) The bioreactor portion of the landfill is a closed landfill as defined in § 63.1990, you have permanently ceased adding liquids to the bioreactor, and you have not added liquids to the bioreactor for at least 1 year. A closure report for the bioreactor must be submitted to the Administrator as provided in § 63.1981(g).

STANDARDS

§ 63.1955 What requirements must I meet?

(a) Before September 28, 2021, if alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions have already been approved under 40 CFR part 60, subpart WWW; subpart XXX; a federal plan; or an EPA-approved and effective state or tribal plan, these alternatives can be used to comply with this subpart, except that all affected sources must comply with the SSM requirements in subpart A of this part as specified in Table 1 of this subpart and all affected sources must submit compliance reports every 6 months as specified in § 63.1981(h), including information on all deviations that occurred during the 6-month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3-hour monitoring block average. Beginning no later than September 28, 2021, the collection and control system design plan may include for approval collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions, as provided in § 63.1981(d)(2).

(b) If you own or operate a bioreactor that is located at an MSW landfill that is not permanently closed and has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m^3, then you must meet the requirements of this subpart, including requirements in paragraphs (b)(1) and (2) of this section.

(1) You must comply with this subpart starting on the date you are required to install the gas collection and control system.

(2) You must extend the collection and control system into each new cell or area of the bioreactor prior to initiating liquids addition in that area.

(c) At all times, beginning no later than September 27, 2021, the owner or operator 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 the owner or operator to make any further efforts to reduce emissions if the requirements of this subpart have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements 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.

§ 63.1957 Requirements for gas collection and control system installation and removal.

(a) ***Operation.*** Operate the collection and control device in accordance with the provisions of §§ 63.1958, 63.1960, and 63.1961.

(b) ***Removal criteria.*** The collection and control system may be capped, removed, or decommissioned if the following criteria are met:

(1) The landfill is a closed landfill (as defined in § 63.1990). A closure report must be submitted to the Administrator as provided in § 63.1981(f);

(2) The gas collection and control system has been in operation a minimum of 15 years or the landfill owner or operator demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining gas flow; and

(3) Following the procedures specified in § 63.1959(c), the calculated NMOC emission rate at the landfill is less than 50 Mg/yr on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart.

§ 63.1958 Operational standards for collection and control systems.

Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of § 63.1957 must:

(a) Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

(1) 5 years or more if active; or

(2) 2 years or more if closed or at final grade;

(b) Operate the collection system with negative pressure at each wellhead except under the following conditions:

(1) A fire or increased well temperature. The owner or operator must record instances when positive pressure occurs in efforts to avoid a fire. These records must be submitted with the semi-annual reports as provided in § 63.1981(h);

(2) Use of a geomembrane or synthetic cover. The owner or operator must develop acceptable pressure limits in the design plan;

(3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes must be approved by the Administrator as specified in § 63.1981(d)(2);

(c) Operate each interior wellhead in the collection system as specified in 40 CFR 60.753(c), until the landfill owner or operator elects to meet the operational standard for temperature in paragraph (c)(1) of this section.

(1) Beginning no later than September 27, 2021, operate each interior wellhead in the collection system with a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit).

(2) The owner or operator may establish a higher operating temperature value at a particular well. A higher operating value demonstration must be submitted to the Administrator for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria in order to be approved (*i.e.,* neither causing fires nor killing methanogens is acceptable).

(d)

(1) Operate the collection system so that the methane concentration is less than 500 parts per million (ppm) above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator must conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan must be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

(2) Beginning no later than September 27, 2021, the owner or operator must:

(i) Conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in § 63.1960(d).

(ii) Conduct surface testing at all cover penetrations. Thus, the owner or operator must monitor any cover penetrations that are within an area of the landfill where waste has been placed and a gas collection system is required.

(iii) Determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

(e) Operate the system as specified in § 60.753(e) of this chapter, except:

(1) Beginning no later than September 27, 2021, operate the system in accordance to § 63.1955(c) such that all collected gases are vented to a control system designed and operated in compliance with § 63.1959(b)(2)(iii). In the event the collection or control system is not operating:

(i) The gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within 1 hour of the collection or control system not operating; and

(ii) Efforts to repair the collection or control system must be initiated and completed in a manner such that downtime is kept to a minimum, and the collection and control system must be returned to operation.

(2) [Reserved]

(f) Operate the control system at all times when the collected gas is routed to the system.

(g) If monitoring demonstrates that the operational requirements in paragraph (b), (c), or (d) of this section are not met, corrective action must be taken as specified in § 63.1960(a)(3) and (5) or (c). If corrective actions are taken as specified in § 63.1960, the monitored exceedance is not a deviation of the operational requirements in this section.

[85 FR 17261, Mar. 26, 2020, as amended at 85 FR 64400, Oct. 13, 2020]

§ 63.1959 NMOC calculation procedures.

(a) Calculate the NMOC emission rate using the procedures specified in § 60.754(a) of this chapter, except:

(1) ***NMOC emission rate.*** Beginning no later than September 27, 2021 the landfill owner or operator must calculate the NMOC emission rate using either Equation 1 provided in paragraph (a)(1)(i) of this section or Equation 2 provided in paragraph (a)(1)(ii) of this section. Both Equation 1 and Equation 2 may be used if the actual year-to-year solid waste acceptance rate is known, as specified in paragraph (a)(1)(i) of this section, for part of the life of the landfill and the actual year-to-year solid waste acceptance rate is unknown, as specified in paragraph (a)(1)(ii) of this section, for part of the life of the landfill. The values to be used in both Equation 1 and Equation 2 are 0.05 per year for k, 170 cubic meters per megagram (m^3/Mg) for L_O, and 4,000 parts per million by volume (ppmv) as hexane for the C_{NMOC}. For landfills located in geographical areas with a 30-year annual average precipitation of less than 25 inches, as measured at the nearest representative official meteorologic site, the k value to be used is 0.02 per year.

(i)

(A) Equation 1 must be used if the actual year-to-year solid waste acceptance rate is known.

$$M_{NMOC} = \sum_{i=1}^{n} 2\,k\,L_o M_i \left(e^{-kt_i}\right)\left(C_{NMOC}\right)\left(3.6\times10^{-9}\right) \quad \text{(Eq. 1)}$$

Where:

M_{NMOC} = Total NMOC emission rate from the landfill, Mg/yr.

k = Methane generation rate constant, year−1.

L_o = Methane generation potential, m^3/Mg solid waste.

M_i = Mass of solid waste in the ith section, Mg.

t_i = Age of the ith section, years.

C_{NMOC} = Concentration of NMOC, ppmv as hexane.

3.6 × 10−9 = Conversion factor.

(B) The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value for M_i if documentation of the nature and amount of such wastes is maintained.

(ii)

(A) Equation 2 must be used if the actual year-to-year solid waste acceptance rate is unknown.

$$M_{NMOC} = 2L_oR\ (e^{-kc}-e^{-kt})\ C_{NMOC}(3.6 \times 10^{-9})\ \text{(Eq. 2)}$$

Where:

M_{NMOC} = Mass emission rate of NMOC, Mg/yr.

L_o = Methane generation potential, m^3/Mg solid waste.

R = Average annual acceptance rate, Mg/yr.

k = Methane generation rate constant, $year^{-1}$.

t = Age of landfill, years.

C_{NMOC} = Concentration of NMOC, ppmv as hexane.

c = Time since closure, years; for active landfill c=0 and e^{-kc} = 1.

3.6×10^{-9} = Conversion factor.

(B) The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value of R, if documentation of the nature and amount of such wastes is maintained.

(2) ***Tier 1.*** The owner or operator must compare the calculated NMOC mass emission rate to the standard of 50 Mg/yr.

(i) If the NMOC emission rate calculated in paragraph (a)(1) of this section is less than 50 Mg/yr, then the landfill owner or operator must submit an NMOC emission rate report according to § 63.1981(c) and must recalculate the NMOC mass emission rate annually as required under paragraph (b) of this section.

(ii) If the calculated NMOC emission rate as calculated in paragraph (a)(1) of this section is equal to or greater than 50 Mg/yr, then the landfill owner must either:

(A) Submit a gas collection and control system design plan within 1 year as specified in § 63.1981(d) and install and operate a gas collection and control system within 30 months of the first annual report in which the NMOC emission rate equals or exceeds 50 Mg/yr, according to paragraphs (b)(2)(ii) and (iii) of this section;

(B) Determine a site-specific NMOC concentration and recalculate the NMOC emission rate using the Tier 2 procedures provided in paragraph (a)(3) of this section; or

(C) Determine a site-specific methane generation rate constant and recalculate the NMOC emission rate using the Tier 3 procedures provided in paragraph (a)(4) of this section.

(3) *Tier 2.* The landfill owner or operator must determine the site-specific NMOC concentration using the following sampling procedure. The landfill owner or operator must install at least two sample probes per hectare, evenly distributed over the landfill surface that has retained waste for at least 2 years. If the landfill is larger than 25 hectares in area, only 50 samples are required. The probes should be evenly distributed across the sample area. The sample probes should be located to avoid known areas of nondegradable solid waste. The owner or operator must collect and analyze one sample of landfill gas from each probe to determine the NMOC concentration using EPA Method 25 or 25C of appendix A-7 to part 60. Taking composite samples from different probes into a single cylinder is allowed; however, equal sample volumes must be taken from each probe. For each composite, the sampling rate, collection times, beginning and ending cylinder vacuums, or alternative volume measurements must be recorded to verify that composite volumes are equal. Composite sample volumes should not be less than one liter unless evidence can be provided to substantiate the accuracy of smaller volumes. Terminate compositing before the cylinder approaches ambient pressure where measurement accuracy diminishes. If more than the required number of samples are taken, all samples must be used in the analysis. The landfill owner or operator must divide the NMOC concentration from EPA Method 25 or 25C of appendix A-7 to part 60 by 6 to convert from C_{NMOC} as carbon to C_{NMOC} as hexane. If the landfill has an active or passive gas removal system in place, EPA Method 25 or 25C samples may be collected from these systems instead of surface probes provided the removal system can be shown to provide sampling as representative as the two sampling probe per hectare requirement. For active collection systems, samples may be collected from the common header pipe. The sample location on the common header pipe must be before any gas moving, condensate removal, or treatment system equipment. For active collection systems, a minimum of three samples must be collected from the header pipe.

(i) Within 60 days after the date of completing each performance test (as defined in § 63.7 of subpart A), the owner or operator must submit the results according to § 63.1981(l)(1).

(ii) The landfill owner or operator must recalculate the NMOC mass emission rate using Equation 1 or Equation 2 provided in paragraph (a)(1)(i) or (ii) of this section and use the average site-specific NMOC concentration from the collected samples instead of the default value provided in paragraph (a)(1) of this section.

(iii) If the resulting NMOC mass emission rate is less than 50 Mg/yr, then the owner or operator must submit a periodic estimate of NMOC emissions in an NMOC emission rate report according to § 63.1981(c) and must recalculate the NMOC mass emission rate annually as required under paragraph (b) of this section. The site-specific NMOC concentration must be retested every 5 years using the methods specified in this section.

(iv) If the NMOC mass emission rate as calculated using the Tier 2 site-specific NMOC concentration is equal to or greater than 50 Mg/yr, the landfill owner or operator must either:

(A) Submit a gas collection and control system design plan within 1 year as specified in § 63.1981(d) and install and operate a gas collection and control system within 30 months according to paragraphs (b)(2)(ii) and (iii) of this section; or

(B) Determine a site-specific methane generation rate constant and recalculate the NMOC emission rate using the site-specific methane generation rate using the Tier 3 procedures specified in paragraph (a)(4) of this section.

(4) ***Tier 3.*** The site-specific methane generation rate constant must be determined using the procedures provided in EPA Method 2E of appendix A-1 to part 60 of this chapter. The landfill owner or operator must estimate the NMOC mass emission rate using Equation 1 or Equation 2 in paragraph (a)(1)(i) or (ii) of this section and using a site-specific methane generation rate constant, and the site-specific NMOC concentration as determined in paragraph (a)(3) of this section instead of the default values provided in paragraph (a)(1) of this section. The landfill owner or operator must compare the resulting NMOC mass emission rate to the standard of 50 Mg/yr.

(i) If the NMOC mass emission rate as calculated using the Tier 2 site-specific NMOC concentration and Tier 3 site-specific methane generation rate is equal to or greater than 50 Mg/yr, the owner or operator must:

(A) Submit a gas collection and control system design plan within 1 year as specified in § 63.1981(d) and install and operate a gas collection and control system within 30 months of the first annual report in which the NMOC emission rate equals or exceeds 50 Mg/yr, according to paragraphs (b)(2)(ii) and (iii) of this section.

(B) [Reserved]

(ii) If the NMOC mass emission rate is less than 50 Mg/yr, then the owner or operator must recalculate the NMOC mass emission rate annually using Equation 1 or Equation 2 in paragraph (a)(1) of this section and using the site-specific Tier 2 NMOC concentration and Tier 3 methane generation rate constant and submit a periodic NMOC emission rate report as provided in § 63.1981(c). The calculation of the methane generation rate constant is performed only once, and the value obtained from this test must be used in all subsequent annual NMOC emission rate calculations.

(5) ***Other methods.*** The owner or operator may use other methods to determine the NMOC concentration or a site-specific methane generation rate constant as an alternative to the methods required in paragraphs (a)(3) and (4) of this section if the method has been approved by the Administrator.

(b) Each owner or operator of an affected source having a design capacity equal to or greater than 2.5 million Mg and 2.5 million m^3 must either comply with paragraph (b)(2) of this section or calculate an NMOC emission rate for the landfill using the procedures specified in paragraph (a) of this section. The NMOC emission rate must be recalculated annually, except as provided in § 63.1981(c)(1)(ii)(A).

(1) If the calculated NMOC emission rate is less than 50 Mg/yr, the owner or operator must:

(i) Submit an annual NMOC emission rate emission report to the Administrator, except as provided for in § 63.1981(c)(1)(ii); and

(ii) Recalculate the NMOC emission rate annually using the procedures specified in paragraph (a)(1) of this section until such time as the calculated NMOC emission rate is equal to or greater than 50 Mg/yr, or the landfill is closed.

(A) If the calculated NMOC emission rate, upon initial calculation or annual recalculation required in paragraph (b) of this section, is equal to or greater than 50 Mg/yr, the owner or operator must either: comply with paragraph (b)(2) of this section or calculate NMOC emissions using the next higher tier in paragraph (a) of this section.

(B) If the landfill is permanently closed, a closure report must be submitted to the Administrator as provided for in § 63.1981(f).

(2) If the calculated NMOC emission rate is equal to or greater than 50 Mg/yr using Tier 1, 2, or 3 procedures, the owner or operator must either:

(i) Submit a collection and control system design plan prepared by a professional engineer to the Administrator within 1 year as specified in § 63.1981(d) or calculate NMOC emissions using the next higher tier in paragraph (a) of this section. The collection and control system must meet the requirements in paragraphs (b)(2)(ii) and (iii) of this section.

(ii) Collection system. Install and start up a collection and control system that captures the gas generated within the landfill as required by paragraphs (b)(2)(ii)(B) or (C) and (b)(2)(iii) of this section within 30 months after:

(A) The first annual report in which the NMOC emission rate equals or exceeds 50 Mg/yr, unless Tier 2 or Tier 3 sampling demonstrates that the NMOC emission rate is less than 50 Mg.

(B) An active collection system must:

(*1*) Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system equipment;

(*2*) Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade;

(*3*) Collect gas at a sufficient extraction rate; and

(*4*) Be designed to minimize off-site migration of subsurface gas.

(C) A passive collection system must:

(*1*) Comply with the provisions specified in paragraphs (b)(2)(ii)(B)(1), (2), and (3) of this section; and

(*2*) Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners must be installed as required under § 258.40 of this chapter.

(iii) Control system. Route all the collected gas to a control system that complies with the requirements in either paragraph (b)(2)(iii)(A), (B), or (C) of this section.

(A) A non-enclosed flare designed and operated in accordance with the parameters established in § 63.11(b) except as noted in paragraph (e) of this section; or

(B) A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3-percent oxygen. The reduction efficiency or ppmv must be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in paragraph (e) of this section. The performance test is not required for boilers and process heaters with design heat input capacities equal to or greater than 44 megawatts that burn landfill gas for compliance with this subpart.

(*1*) If a boiler or process heater is used as the control device, the landfill gas stream must be introduced into the flame zone.

(*2*) The control device must be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in §§ 63.1961(b) through (e);

(C) A treatment system that processes the collected gas for subsequent sale or beneficial use such as fuel for combustion, production of vehicle fuel, production of high-British thermal unit (Btu) gas for pipeline injection, or use as a raw material in a chemical manufacturing process. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to either paragraph (b)(2)(iii)(A) or (B) of this section.

(D) All emissions from any atmospheric vent from the gas treatment system are subject to the requirements of paragraph (b)(2)(iii)(A) or (B) of this section. For purposes of this subpart, atmospheric vents located on the condensate storage tank are not part of the treatment system and are exempt from the requirements of paragraph (b)(2)(iii)(A) or (B) of this section.

(c) After the installation and startup of a collection and control system in compliance with this subpart, the owner or operator must calculate the NMOC emission rate for purposes of determining when the system can be capped, removed, or decommissioned as provided in § 63.1957(b)(3), using Equation 3:

$$MNMOC = 1.89 \times 10^{-3} Q_{LFG} C_{NMOC} \text{ (Eq. 3)}$$

Where:

M_{NMOC} = Mass emission rate of NMOC, Mg/yr.

Q_{LFG} = Flow rate of landfill gas, m^3 per minute.

C_{NMOC} = Average NMOC concentration, ppmv as hexane.

1.89×10^{-3} = Conversion factor.

(1) The flow rate of landfill gas, Q_{LFG}, must be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control system using a gas flow measuring device calibrated according to the provisions of section 10 of EPA Method 2E of appendix A-1 of part 60.

(2) The average NMOC concentration, C_{NMOC}, must be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in EPA Method 25 or 25C of appendix A-7 to part 60 of this chapter. The sample location on the common header pipe must be before any condensate removal or other gas refining units. The landfill owner or operator must divide the NMOC concentration from EPA Method 25 or 25C of appendix A-7 to part 60 by 6 to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.

(3) The owner or operator may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.

(i) Within 60 days after the date of completing each performance test (as defined in § 63.7), the owner or operator must submit the results of the performance test, including any associated fuel analyses, according to § 63.1981(l)(1).

(ii) [Reserved]

(d) For the performance test required in § 63.1959(b)(2)(iii)(B), EPA Method 25 or 25C (EPA Method 25C of appendix A-7 to part 60 of this chapter may be used at the inlet only) of appendix A of this part must be used to determine compliance with the 98 weight-percent efficiency or the 20- ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the Administrator as provided by § 63.1981(d)(2). EPA Method 3, 3A, or 3C of appendix A-7 to part 60 must be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), EPA Method 25A should be used in place of EPA Method 25. EPA Method 18 may be used in conjunction with EPA Method 25A on a limited basis (compound specific, *e.g.,* methane) or EPA Method 3C may be used to determine methane. The methane as carbon should be subtracted from the EPA Method 25A total hydrocarbon value as carbon to give NMOC concentration as carbon. The landowner or operator must divide the NMOC concentration as carbon by 6 to convert from the C_{NMOC} as carbon to C_{NMOC} as hexane. Equation 4 must be used to calculate efficiency:

$$\text{Control Efficiency} = (NMOC_{in} - NMOC_{out})/(NMOC_{in}) \qquad \text{(Eq. 4)}$$

Where:

$NMOC_{in}$ = Mass of NMOC entering control device.

$NMOC_{out}$ = Mass of NMOC exiting control device.

(e) For the performance test required in § 63.1959(b)(2)(iii)(A), the net heating value of the combusted landfill gas as determined in § 63.11(b)(6)(ii) is calculated from the concentration of methane in the landfill gas as measured by EPA Method 3C of appendix A to part 60 of this chapter. A minimum of three 30-minute EPA Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. EPA Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under § 63.11(b)(7) of subpart A.

(1) Within 60 days after the date of completing each performance test (as defined in § 63.7), the owner or operator must submit the results of the performance tests, including any associated fuel analyses, required by § 63.1959(c) or (e) according to § 63.1981(l)(1).

(2) [Reserved]

(f) The performance tests required in §§ 63.1959(b)(2)(iii)(A) and (B), must 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. Representative conditions exclude periods of startup and shutdown unless specified by the Administrator. The owner or operator may not conduct performance tests during periods of malfunction. The owner or operator must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. 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.

[85 FR 17261, Mar. 26, 2020, as amended at 85 FR 64400, Oct. 13, 2020]

§ 63.1960 Compliance provisions.

(a) Except as provided in § 63.1981(d)(2), the specified methods in paragraphs (a)(1) through (5) of this section must be used to determine whether the gas collection system is in compliance with § 63.1959(b)(2)(ii).

(1) For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with § 63.1959(b)(2)(ii)(C)(1), either Equation 5 or Equation 6 must be used. The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Administrator. The methane generation rate constant (k) and methane generation potential (L_o) kinetic factors should be those published in the most recent *Compilation of Air Pollutant Emission Factors* (AP-42) or other site-specific values demonstrated to be appropriate and approved by the Administrator. If k has been determined as specified in § 63.1959(a)(4), the value of k determined from the test must be used. A value of no more than 15 years must be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

(i) For sites with unknown year-to-year solid waste acceptance rate:

$$Qm = 2L_oR\ (e^{-kc} - e^{-kt})\ \text{(Eq. 5)}$$

Where:

Qm = Maximum expected gas generation flow rate, m^3/yr.

L_o = Methane generation potential, m^3/Mg solid waste.

R = Average annual acceptance rate, Mg/yr.

k = Methane generation rate constant, $year^{-1}$.

t = Age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less. If the equipment is installed after closure, t is the age of the landfill at installation, years.

c = Time since closure, years (for an active landfill c = 0 and e^{-kc} = 1).

2 = Constant.

(ii) For sites with known year-to-year solid waste acceptance rate:

$$Q_{M=} \sum_{i=1}^{n} 2kL_oM_i\left(e^{-kt_i}\right) \text{ (Eq. 6)}$$

Where:

Qm = Maximum expected gas generation flow rate, m^3/yr.

k = Methane generation rate constant, $year^{-1}$.

L_o = Methane generation potential, m^3/Mg solid waste.

M_i = Mass of solid waste in the ith section, Mg.

t_i = Age of the ith section, years.

(iii) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, Equation 5 or Equation 6 in paragraphs (a)(1)(i) and (ii) of this section. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using Equation 5 or Equation 6 in paragraph (a)(1)(i) or (ii) of this section or other methods must be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

(2) For the purposes of determining sufficient density of gas collectors for compliance with § 63.1959(b)(2)(ii)(B)(*2*), the owner or operator must design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

(3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with § 63.1959(b)(2)(ii)(B)(*3*), the owner or operator must measure gauge pressure in the gas collection header applied to each individual well monthly. Any attempted corrective measure must not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. If a positive pressure exists, follow the procedures as specified in § 60.755(a)(3), except:

(i) Beginning no later than September 27, 2021, if a positive pressure exists, action must be initiated to correct the exceedance within 5 days, except for the three conditions allowed under § 63.1958(b).

(A) If negative pressure cannot be achieved without excess air infiltration within 15 days of the first measurement of positive pressure, the owner or operator must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after positive pressure was first measured. The owner or operator must keep records according to § 63.1983(e)(3).

(B) If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement. The owner or operator must submit the items listed in § 63.1981(h)(7) as part of the next semi-annual report. The owner or operator must keep records according to § 63.1983(e)(4).

(C) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to § 63.1981(j). The owner or operator must keep records according to § 63.1983(e)(5).

(ii) [Reserved]

(4) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the temperature and nitrogen or oxygen operational standards in introductory paragraph § 63.1958(c), for the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator must follow the procedures as specified in § 60.755(a)(5) of this chapter, except:

(i) Once an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1), the owner or operator must monitor each well monthly for temperature for the purpose of identifying whether excess air infiltration exists. If a well exceeds the operating parameter for temperature as provided in § 63.1958(c)(1), action must be initiated to correct the exceedance within 5 days. Any attempted corrective measure must not cause exceedances of other operational or performance standards.

(A) If a landfill gas temperature less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit) cannot be achieved within 15 days of the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit), the owner or operator must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) was first measured. The owner or operator must keep records according to § 63.1983(e)(3).

(B) If corrective actions cannot be fully implemented within 60 days following the temperature measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit). The owner or operator must submit the items listed in § 63.1981(h)(7) as part of the next semi-annual report. The owner or operator must keep records according to § 63.1983(e)(4).

(C) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to § 63.1981(h)(7) and (j). The owner or operator must keep records according to § 63.1983(e)(5).

(D) If a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured, according to the procedures in § 63.1961(a)(5)(vi) is greater than or equal to 1,000 ppmv the corrective action(s) for the wellhead temperature standard (62.8 degrees Celsius or 145 degrees Fahrenheit) must be completed within 15 days.

(5) An owner or operator seeking to demonstrate compliance with § 63.1959(b)(2)(ii)(B)(*4*) through the use of a collection system not conforming to the specifications provided in § 63.1962 must provide information satisfactory to the Administrator as specified in § 63.1981(d)(3) demonstrating that off-site migration is being controlled.

(b) For purposes of compliance with § 63.1958(a), each owner or operator of a controlled landfill must place each well or design component as specified in the approved design plan as provided in § 63.1981(d). Each well must be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of:

(1) 5 years or more if active; or

(2) 2 years or more if closed or at final grade.

(c) The following procedures must be used for compliance with the surface methane operational standard as provided in § 63.1958(d).

(1) After installation and startup of the gas collection system, the owner or operator must monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in paragraph (d) of this section.

(2) The background concentration must be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

(3) Surface emission monitoring must be performed in accordance with section 8.3.1 of EPA Method 21 of appendix A-7 of part 60 of this chapter, except that the probe inlet must be placed within 5 to 10 centimeters of the ground. Monitoring must be performed during typical meteorological conditions.

(4) Any reading of 500 ppm or more above background at any location must be recorded as a monitored exceedance and the actions specified in paragraphs (c)(4)(i) through (v) of this section must be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of § 63.1958(d).

(i) The location of each monitored exceedance must be marked and the location and concentration recorded. Beginning no later than September 27, 2021, the location must be recorded using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

(ii) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 days of detecting the exceedance.

(iii) If the re-monitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in paragraph (c)(4)(v) of this section must be taken, and no further monitoring of that location is required until the action specified in paragraph (c)(4)(v) of this section has been taken.

(iv) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in paragraph (c)(4)(ii) or (iii) of this section must be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 ppm above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in paragraph (c)(4)(iii) or (v) of this section must be taken.

(v) For any location where monitored methane concentration equals or exceeds 500 ppm above background three times within a quarterly period, a new well or other collection device must be installed within 120 days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval.

(5) The owner or operator must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

(d) Each owner or operator seeking to comply with the provisions in paragraph (c) of this section must comply with the following instrumentation specifications and procedures for surface emission monitoring devices:

(1) The portable analyzer must meet the instrument specifications provided in section 6 of EPA Method 21 of appendix A of part 60 of this chapter, except that “methane” replaces all references to “VOC”.

(2) The calibration gas must be methane, diluted to a nominal concentration of 500 ppm in air.

(3) To meet the performance evaluation requirements in section 8.1 of EPA Method 21 of appendix A of part 60 of this chapter, the instrument evaluation procedures of section 8.1 of EPA Method 21 of appendix A of part 60 must be used.

(4) The calibration procedures provided in sections 8 and 10 of EPA Method 21 of appendix A of part 60 of this chapter must be followed immediately before commencing a surface monitoring survey.

(e)

(1) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the operational standards in introductory paragraph § 63.1958(e), the provisions of this subpart apply at all times, except during periods of SSM, provided that the duration of SSM does not exceed 5 days for collection systems and does not exceed 1 hour for treatment or control devices. You must comply with the provisions in Table 1 to subpart AAAA that apply before September 28, 2021.

(2) Once an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the operational standard in § 63.1958(e)(1), the provisions of this subpart apply at all times, including periods of SSM. During periods of SSM, you must comply with the work practice requirement specified in § 63.1958(e) in lieu of the compliance provisions in § 63.1960.

[85 FR 17261, Mar. 26, 2020, as amended at 85 FR 64400, Oct. 13, 2020; 87 FR 8203, Feb. 14, 2022]

§ 63.1961 Monitoring of operations.

Except as provided in § 63.1981(d)(2):

(a) Each owner or operator seeking to comply with § 63.1959(b)(2)(ii)(B) for an active gas collection system must install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and:

(1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in § 63.1960(a)(3); and

(2) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as follows:

(i) The nitrogen level must be determined using EPA Method 3C of appendix A-2 to part 60 of this chapter, unless an alternative test method is established as allowed by § 63.1981(d)(2).

(ii) Unless an alternative test method is established as allowed by § 63.1981(d)(2), the oxygen level must be determined by an oxygen meter using EPA Method 3A or 3C of appendix A-2 to part 60 of this chapter or ASTM D6522-11 (incorporated by reference, see § 63.14). Determine the oxygen level by an oxygen meter using EPA Method 3A or 3C of appendix A-2 to part 60 or ASTM D6522-11 (if sample location is prior to combustion) except that:

(A) The span must be set between 10- and 12-percent oxygen;

(B) A data recorder is not required;

(C) Only two calibration gases are required, a zero and span;

(D) A calibration error check is not required; and

(E) The allowable sample bias, zero drift, and calibration drift are ±10 percent.

(iii) A portable gas composition analyzer may be used to monitor the oxygen levels provided:

(A) The analyzer is calibrated; and

(B) The analyzer meets all quality assurance and quality control requirements for EPA Method 3A of appendix A-2 to part 60 of this chapter or ASTM D6522-11 (incorporated by reference, see § 63.14).

(3) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the temperature and nitrogen or oxygen operational standards in introductory paragraph § 63.1958(c), the owner or operator must follow the procedures as specified in § 60.756(a)(2) and (3) of this chapter. Monitor temperature of the landfill gas on a monthly basis as provided in § 63.1960(a)(4). The temperature measuring device must be calibrated annually using the procedure in Section 10.3 of EPA Method 2 of appendix A-1 to part 60 of this chapter.

(4) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1), monitor temperature of the landfill gas on a monthly basis as provided in § 63.1960(a)(4). The temperature measuring device must be calibrated annually using the procedure in Section 10.3 of EPA Method 2 of appendix A-1 to part 60 of this chapter. Keep records specified in § 63.1983(e).

(5) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1), unless a higher operating temperature value has been approved by the Administrator under this subpart or under 40 CFR part 60, subpart WWW; 40 CFR part 60, subpart XXX; or a federal plan or EPA-approved and effective state plan or tribal plan that implements either 40 CFR part 60, subpart Cc or 40 CFR part 60, subpart Cf, you must initiate enhanced monitoring at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as follows:

(i) Visual observations for subsurface oxidation events (smoke, smoldering ash, damage to well) within the radius of influence of the well.

(ii) Monitor oxygen concentration as provided in paragraph (a)(2) of this section;

(iii) Monitor temperature of the landfill gas at the wellhead as provided in paragraph (a)(4) of this section.

(iv) Monitor temperature of the landfill gas every 10 vertical feet of the well as provided in paragraph (a)(6) of this section.

(v) Monitor the methane concentration with a methane meter using EPA Method 3C of appendix A-6 to part 60, EPA Method 18 of appendix A-6 to part 60 of this chapter, or a portable gas composition analyzer to monitor the methane levels provided that the analyzer is calibrated and the analyzer meets all quality assurance and quality control requirements for EPA Method 3C or EPA Method 18.

(vi) Monitor and determine carbon monoxide concentrations, as follows:

(A) Collect the sample from the wellhead sampling port in a passivated canister or multi-layer foil gas sampling bag (such as the Cali-5-Bond Bag) and analyze that sample using EPA Method 10 of appendix A-4 to part 60 of this chapter, or an equivalent method with a detection limit of at least 100 ppmv of carbon monoxide in high concentrations of methane; or

(B) Collect and analyze the sample from the wellhead using EPA Method 10 of appendix A-4 to part 60 to measure carbon monoxide concentrations.

(C) When sampling directly from the wellhead, you must sample for 5 minutes plus twice the response time of the analyzer. These values must be recorded. The five 1-minute averages are then averaged to give you the carbon monoxide reading at the wellhead.

(D) When collecting samples in a passivated canister or multi-layer foil sampling bag, you must sample for the period of time needed to assure that enough sample is collected to provide five (5) consecutive, 1-minute samples during the analysis of the canister or bag contents, but no less than 5 minutes plus twice the response time of the analyzer. The five (5) consecutive, 1-minute averages are then averaged together to give you a carbon monoxide value from the wellhead.

(vii) The enhanced monitoring described in this paragraph (a)(5) must begin 7 calendar days after the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit); and

(viii) The enhanced monitoring in this paragraph (a)(5) must be conducted on a weekly basis. If four consecutive weekly carbon monoxide readings are under 100 ppmv, then enhanced monitoring may be decreased to monthly. However, if carbon monoxide readings exceed 100 ppmv again, the landfill must return to weekly monitoring.

(ix) The enhanced monitoring in this paragraph (a)(5) can be stopped once a higher operating value is approved, at which time the monitoring provisions issued with the higher operating value should be followed, or once the measurement of landfill gas temperature at the wellhead is less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit).

(6) For each wellhead with a measurement of landfill gas temperature greater than or equal to 73.9 degrees Celsius (165 degrees Fahrenheit), annually monitor temperature of the landfill gas every 10 vertical feet of the well. This temperature can be monitored either with a removable thermometer, or using temporary or permanent thermocouples installed in the well.

(b) Each owner or operator seeking to comply with § 63.1959(b)(2)(iii) using an enclosed combustor must calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment:

(1) A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees Celsius, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.

(2) A device that records flow to the control device and bypass of the control device (if applicable). The owner or operator must:

(i) Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every 15 minutes; and

(ii) Secure the 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 must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(c) Each owner or operator seeking to comply with § 63.1959(b)(2)(iii) using a non-enclosed flare must install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

(1) A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame; and

(2) A device that records flow to the flare and bypass of the flare (if applicable). The owner or operator must:

(i) Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the control device at least every 15 minutes; and

(ii) Secure the 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 must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(d) Each owner or operator seeking to demonstrate compliance with § 63.1959(b)(2)(iii) using a device other than a non-enclosed flare or an enclosed combustor or a treatment system must provide information satisfactory to the Administrator as provided in § 63.1981(d)(2) describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator must review the information and either approve it, or request that additional information be submitted. The Administrator may specify additional appropriate monitoring procedures.

(e) Each owner or operator seeking to install a collection system that does not meet the specifications in § 63.1962 or seeking to monitor alternative parameters to those required by §§ 63.1958 through 63.1961 must provide information satisfactory to the Administrator as provided in § 63.1981(d)(2) and (3) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator may specify additional appropriate monitoring procedures.

(f) Each owner or operator seeking to demonstrate compliance with the 500-ppm surface methane operational standard in § 63.1958(d) must monitor surface concentrations of methane according to the procedures in § 63.1960(c) and the instrument specifications in § 63.1960(d). If you are complying with the 500-ppm surface methane operational standard in § 63.1958(d)(2), for location, you must determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters and the coordinates must be in decimal degrees with at least five decimal places. In the semi-annual report in § 63.1981(h), you must report the location of each exceedance of the 500-ppm methane concentration as provided in § 63.1958(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

(g) Each owner or operator seeking to demonstrate compliance with § 63.1959(b)(2)(iii)(C) using a landfill gas treatment system must calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to the treatment system and bypass of the treatment system (if applicable). Beginning no later than September 27, 2021, each owner or operator must maintain and operate all monitoring systems associated with the treatment system in accordance with the site-specific treatment system monitoring plan required in § 63.1983(b)(5)(ii). The owner or operator must:

(1) Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the treatment system at least every 15 minutes; and

(2) Secure the 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 must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(h) The monitoring requirements of paragraphs (a), (b), (c), (d), and (g) of this section apply at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation

as expeditiously as practicable. Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the temperature and nitrogen or oxygen operational standards in introductory paragraph § 63.1958(c)(1), (d)(2), and (e)(1), the standards apply at all times.

[85 FR 17261, Mar. 26, 2020, as amended at 85 FR 64401, Oct. 13, 2020; 87 FR 8203, Feb. 14, 2022]

§ 63.1962 Specifications for active collection systems.

(a) Each owner or operator seeking to comply with § 63.1959(b)(2)(i) must site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Administrator as provided in § 63.1981(d)(2) and (3):

(1) The collection devices within the interior must be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues must be addressed in the design: Depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, resistance to the refuse decomposition heat, and ability to isolate individual components or sections for repair or troubleshooting without shutting down entire collection system.

(2) The sufficient density of gas collection devices determined in paragraph (a)(1) of this section must address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.

(3) The placement of gas collection devices determined in paragraph (a)(1) of this section must control all gas producing areas, except as provided by paragraphs (a)(3)(i) and (ii) of this section.

(i) Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under § 63.1983(d). The documentation must provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area and must be provided to the Administrator upon request.

(ii) Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material must be documented and provided to the Administrator upon request. A separate NMOC emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the NMOC emissions estimate for the entire landfill.

(A) The NMOC emissions from each section proposed for exclusion must be computed using Equation 7:

$$Q_i = 2\,k\,L_o M_i (e^{-kt_i})\,(C_{NMOC})\,(3.6 \times 10^{-9}) \quad \text{(Eq. 7)}$$

Where:

Q_i = NMOC emission rate from the ith section, Mg/yr.

k = Methane generation rate constant, $year^{-1}$.

L_o = Methane generation potential, m^3/Mg solid waste.

M_i = Mass of the degradable solid waste in the ith section, Mg.

t_i = Age of the solid waste in the ith section, years.

C_{NMOC} = Concentration of NMOC, ppmv.

3.6×10^{-9} = Conversion factor.

(B) If the owner/operator is proposing to exclude, or cease gas collection and control from, nonproductive physically separated (*e.g.,* separately lined) closed areas that already have gas collection systems, NMOC emissions from each physically separated closed area must be computed using either Equation 3 in § 63.1959(c) or Equation 7 in paragraph (a)(3)(ii)(A) of this section.

(iii) The values for k and C_{NMOC} determined in field testing must be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (the distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, L_o and C_{NMOC} provided in § 63.1959(a)(1) or the alternative values from § 63.1959(a)(5) must be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in paragraph (a)(3)(i) of this section.

(b) Each owner or operator seeking to comply with § 63.1959(b)(2)(ii) must construct the gas collection devices using the following equipment or procedures:

(1) The landfill gas extraction components must be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: Convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system must extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors must be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations must be situated with regard to the need to prevent excessive air infiltration.

(2) Vertical wells must be placed so as not to endanger underlying liners and must address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors must be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices must be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

(3) Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly must include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

(c) Each owner or operator seeking to comply with § 63.1959(b)(2)(iii) must convey the landfill gas to a control system in compliance with § 63.1959(b)(2)(iii) through the collection header pipe(s). The gas mover equipment must be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures:

(1) For existing collection systems, the flow data must be used to project the maximum flow rate. If no flow data exists, the procedures in paragraph (c)(2) of this section must be used.

(2) For new collection systems, the maximum flow rate must be in accordance with § 63.1960(a)(1).

General and Continuing Compliance Requirements

§ 63.1964 How is compliance determined?

Compliance is determined using performance testing, collection system monitoring, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data collected under § 63.1961(b)(1), (c)(1), and (d) are used to demonstrate compliance with the operating standards for control systems. If a deviation occurs, you have failed to meet the control device operating standards described in this subpart and have deviated from the requirements of this subpart.

(a) Before September 28, 2021, you must develop a written SSM plan according to the provisions in § 63.6(e)(3) of subpart A. A copy of the SSM plan must be maintained on site. Failure to write or maintain a copy of the SSM plan is a deviation from the requirements of this subpart.

(b) After September 27, 2021, the SSM provisions of § 63.6(e) of subpart A no longer apply to this subpart and the SSM plan developed under paragraph (a) of this section no longer applies. Compliance with the emissions standards and the operating standards of § 63.1958 of this subpart is required at all times.

§ 63.1965 What is a deviation?

A deviation is defined in § 63.1990. For the purposes of the landfill monitoring and SSM plan requirements, deviations include the items in paragraphs (a) through (c) of this section.

(a) A deviation occurs when the control device operating parameter boundaries described in § 63.1983(c)(1) are exceeded.

(b) A deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.

(c) Before September 28, 2021, a deviation occurs when a SSM plan is not developed or maintained on site and when an affected source fails to meet any emission limitation, (including any operating limit), or work practice requirement in this subpart during SSM, regardless of whether or not such failure is permitted by this subpart.

§ 63.1975 How do I calculate the 3-hour block average used to demonstrate compliance?

Before September 28, 2021, averages are calculated in the same way as they are calculated in § 60.758(b)(2)(i) of this subchapter for average combustion temperature and § 60.758(c) for 3-hour average combustion temperature for enclosed combustors, except that the data collected during the events listed in paragraphs (a) through (d) of this section are not to be included in any average computed under this subpart. Beginning no later than September 27, 2021, averages are calculated according to § 63.1983(b)(2)(i) for average combustion temperature and § 63.1983(c)(1)(i) for 3-hour average combustion temperature for enclosed combustors, except that the data collected during the event listed in paragraph (a) of this section are not to be included in any average computed under this subpart.

(a) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments.

(b) Startups.

(c) Shutdowns.

(d) Malfunctions.

[85 FR 17261, Mar. 26, 2020, as amended at 87 FR 8204, Feb. 14, 2022]

NOTIFICATIONS, RECORDS, AND REPORTS

§ 63.1981 What reports must I submit?

You must submit the reports specified in this section and the reports specified in Table 1 to this subpart. If you have previously submitted a design capacity report, amended design capacity report, initial NMOC emission rate report, initial or revised collection and control system design plan, closure report, equipment removal report, or initial performance test under 40 CFR part 60, subpart WWW; 40 CFR part 60, subpart XXX; or a federal plan or EPA-approved and effective state plan or tribal plan that implements either 40 CFR part 60, subpart Cc or 40 CFR part 60, subpart Cf, then that submission constitutes compliance with the design capacity report in paragraph (a) of this section, the amended design capacity report in paragraph (b) of this section, the initial NMOC emission rate report in paragraph (c) of this section, the initial collection and control system design plan in paragraph (d) of this section, the revised design plan in paragraph (e) of this section, the closure report in paragraph (f) of this section, the equipment removal report in paragraph (g) of this section, and the initial performance test report in paragraph (i) of this section. You do not need to re-submit the report(s). However, you must include a statement certifying prior submission of the respective report(s) and the date of submittal in the first semi-annual report required in this section.

(a) ***Initial design capacity report.*** The initial design capacity report must contain the information specified in § 60.757(a)(2) of this chapter, except beginning no later than September 28, 2021, the report must contain:

(1) A map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be landfilled according to the permit issued by the state, local, or tribal agency responsible for regulating the landfill.

(2) The maximum design capacity of the landfill. Where the maximum design capacity is specified in the permit issued by the state, local, or tribal agency responsible for regulating the landfill, a copy of the permit specifying the maximum design capacity may be submitted as part of the report. If the

maximum design capacity of the landfill is not specified in the permit, the maximum design capacity must be calculated using good engineering practices. The calculations must be provided, along with the relevant parameters as part of the report. The landfill may calculate design capacity in either Mg or m^3 for comparison with the exemption values. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million Mg or 2.5 million m^3, the calculation must include a site-specific density, which must be recalculated annually. Any density conversions must be documented and submitted with the design capacity report. The state, tribal, local agency or Administrator may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.

(b) ***Amended design capacity report.*** An amended design capacity report must be submitted to the Administrator providing notification of an increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to meet or exceed 2.5 million Mg and 2.5 million m^3. This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in § 63.1983(f).

(c) ***NMOC emission rate report.*** Each owner or operator subject to the requirements of this subpart must submit a copy of the latest NMOC emission rate report that was submitted according to § 60.757(b) of this chapter or submit an NMOC emission rate report to the Administrator initially and annually thereafter, except as provided for in paragraph (c)(1)(ii)(A) of this section. The Administrator may request such additional information as may be necessary to verify the reported NMOC emission rate. If you have submitted an annual report under 40 CFR part 60, subpart WWW; 40 CFR part 60, subpart XXX; or a Federal plan or EPA-approved and effective state plan or tribal plan that implements either 40 CFR part 60, subpart Cc or 40 CFR part 60, subpart Cf, then that submission constitutes compliance with the annual NMOC emission rate report in this paragraph. You do not need to re-submit the annual report for the current year. Beginning no later than September 27, 2021, the report must meet the following requirements:

(1) The NMOC emission rate report must contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in § 63.1959(a) or (b), as applicable.

(i) The initial NMOC emission rate report must be submitted no later than 90 days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction on or after March 12, 1996.

(ii) Subsequent NMOC emission rate reports must be submitted annually thereafter, except as provided for in paragraph (c)(1)(ii)(A) of this section.

(A) If the estimated NMOC emission rate as reported in the annual report to the Administrator is less than 50 Mg/yr in each of the next 5 consecutive years, the owner or operator may elect to submit, an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual report. This estimate must include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years for which an NMOC emission rate is estimated. All data and calculations upon which this estimate is based must be provided to the Administrator. This estimate must be revised at least once every 5 years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the 5-year estimate, a revised 5-year estimate must be submitted to the Administrator. The revised estimate must cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate.

(B) The report must be submitted following the procedure specified in paragraph (l)(2) of this section.

(2) The NMOC emission rate report must include all the data, calculations, sample reports and measurements used to estimate the annual or 5-year emissions.

(3) Each owner or operator subject to the requirements of this subpart is exempted from the requirements to submit an NMOC emission rate report, after installing a collection and control system that complies with § 63.1959(b)(2), during such time as the collection and control system is in operation and in compliance with §§ 63.1958 and 63.1960.

(d) ***Collection and control system design plan.*** Each owner or operator subject to the provisions of § 63.1959(b)(2) must submit a collection and control system design plan to the Administrator for approval according to § 60.757(c) of this chapter and the schedule in § 60.757(c)(1) and (2). Beginning no later than September 27, 2021, each owner or operator subject to the provisions of § 63.1959(b)(2) must submit a collection and control system design plan to the Administrator according to paragraphs (d)(1) through (6) of this section. The collection and control system design plan must be prepared and approved by a professional engineer.

(1) The collection and control system as described in the design plan must meet the design requirements in § 63.1959(b)(2).

(2) The collection and control system design plan must include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of §§ 63.1957 through 63.1983 proposed by the owner or operator.

(3) The collection and control system design plan must either conform with specifications for active collection systems in § 63.1962 or include a demonstration to the Administrator's satisfaction of the sufficiency of the alternative provisions to § 63.1962.

(4) Each owner or operator of an MSW landfill affected by this subpart must submit a collection and control system design plan to the Administrator for approval within 1 year of becoming subject to this subpart.

(5) The landfill owner or operator must notify the Administrator that the design plan is completed and submit a copy of the plan's signature page. The Administrator has 90 days to decide whether the design plan should be submitted for review. If the Administrator chooses to review the plan, the approval process continues as described in paragraph (d)(6) of this section. In the event that the design plan is required to be modified to obtain approval, the owner or operator must take any steps necessary to conform any prior actions to the approved design plan and any failure to do so could result in an enforcement action.

(6) Upon receipt of an initial or revised design plan, the Administrator must review the information submitted under paragraphs (d)(1) through (3) of this section and either approve it, disapprove it, or request that additional information be submitted. Because of the many site-specific factors involved with landfill gas system design, alternative systems may be necessary. A wide variety of system designs are possible, such as vertical wells, combination horizontal and vertical collection systems, or horizontal trenches only, leachate collection components, and passive systems.

(e) ***Revised design plan.*** Beginning no later than September 27, 2021, the owner or operator who has already been required to submit a design plan under paragraph (d) of this section must submit a revised design plan to the Administrator for approval as follows:

(1) At least 90 days before expanding operations to an area not covered by the previously approved design plan.

(2) Prior to installing or expanding the gas collection system in a way that is not consistent with the design plan that was submitted to the Administrator according to paragraph (d) of this section.

(f) ***Closure report.*** Each owner or operator of a controlled landfill must submit a closure report to the Administrator within 30 days of waste acceptance cessation. The Administrator may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of § 258.60 of this chapter. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under § 63.9(b) of subpart A.

(g) ***Equipment removal report.*** Each owner or operator of a controlled landfill must submit an equipment removal report as provided in § 60.757(e) of this chapter. Each owner or operator of a controlled landfill must submit an equipment removal report to the Administrator 30 days prior to removal or cessation of operation of the control equipment.

(1) Beginning no later than September 27, 2021, the equipment removal report must contain all of the following items:

(i) A copy of the closure report submitted in accordance with paragraph (f) of this section;

(ii) A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired, or information that demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's Central Data Exchange (CDX); and

(iii) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 Mg or greater of NMOC per year. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports.

(2) The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in § 63.1957(b) have been met.

(h) ***Semi-annual report.*** The owner or operator of a landfill seeking to comply with § 63.1959(b)(2) using an active collection system designed in accordance with § 63.1959(b)(2)(ii) must submit to the Administrator semi-annual reports. Beginning no later than September 27, 2021, you must submit the report, following the procedure specified in paragraph (l) of this section. The initial report must be submitted within 180 days of installation and startup of the collection and control system and must include the initial performance test report required under § 63.7 of subpart A, as applicable. In the initial report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX. For enclosed combustion devices and flares, reportable exceedances are defined under § 63.1983(c). The semi-annual reports must contain the information in paragraphs (h)(1) through (8) of this section.

(1) Number of times that applicable parameters monitored under § 63.1958(b), (c), and (d) were exceeded and when the gas collection and control system was not operating under § 63.1958(e), including periods of SSM. For each instance, report the date, time, and duration of each exceedance.

(i) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the temperature and nitrogen or oxygen operational standards in introductory paragraph § 63.1958(c), provide a statement of the wellhead operational standard for temperature and oxygen you are complying with for the period covered by the report. Indicate the number of times each of those parameters monitored under § 63.1961(a)(3) were exceeded. For each instance, report the date, time, and duration of each exceedance.

(ii) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1), provide a statement of the wellhead operational standard for temperature and oxygen you are complying with for the period covered by the report. Indicate the number of times each of those parameters monitored under § 63.1961(a)(4) were exceeded. For each instance, report the date, time, and duration of each exceedance.

(iii) Beginning no later than September 27, 2021, number of times the parameters for the site-specific treatment system in § 63.1961(g) were exceeded.

(2) Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under § 63.1961.

(3) Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.

(4) All periods when the collection system was not operating.

(5) The location of each exceedance of the 500-ppm methane concentration as provided in § 63.1958(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. Beginning no later than September 27, 2021, for location, you record the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

(6) The date of installation and the location of each well or collection system expansion added pursuant to § 63.1960(a)(3) and (4), (b), and (c)(4).

(7) For any corrective action analysis for which corrective actions are required in § 63.1960(a)(3)(i) or (a)(5) and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

(8) Each owner or operator required to conduct enhanced monitoring in §§ 63.1961(a)(5) and (6) must include the results of all monitoring activities conducted during the period.

(i) For each monitoring point, report the date, time, and well identifier along with the value and units of measure for oxygen, temperature (wellhead and downwell), methane, and carbon monoxide.

(ii) Include a summary trend analysis for each well subject to the enhanced monitoring requirements to chart the weekly readings over time for oxygen, wellhead temperature, methane, and weekly or monthly readings over time, as applicable for carbon monoxide.

(iii) Include the date, time, staff person name, and description of findings for each visual observation for subsurface oxidation event.

(i) ***Initial performance test report.*** Each owner or operator seeking to comply with § 63.1959(b)(2)(iii) must include the following information with the initial performance test report required under § 63.7 of subpart A:

(1) A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;

(2) The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;

(3) The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material;

(4) The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area;

(5) The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; and

(6) The provisions for the control of off-site migration.

(j) ***Corrective action and the corresponding timeline.*** The owner or operator must submit information regarding corrective actions according to paragraphs (j)(1) and (2) of this section.

(1) For corrective action that is required according to § 63.1960(a)(3) or (4) and is not completed within 60 days after the initial exceedance, you must submit a notification to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance.

(2) For corrective action that is required according to § 63.1960(a)(3) or (4) and is expected to take longer than 120 days after the initial exceedance to complete, you must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above unless a higher operating temperature value has been approved by the Administrator for the well under this subpart or under 40 CFR part 60, subpart WWW; 40 CFR part 60, subpart XXX; or a Federal plan or EPA approved and effective state plan or tribal plan that implements either 40 CFR part 60, subpart Cc or 40 CFR part 60, subpart Cf. The Administrator must approve the plan for corrective action and the corresponding timeline.

(k) ***24-hour high temperature report.*** Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1) and a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured is greater than or equal to 1,000 ppmv, then you must report the date, time, well identifier, temperature and carbon monoxide reading via email to the Administrator within 24 hours of the measurement unless a higher operating temperature value has been approved by the Administrator for the well under this subpart or under 40 CFR part 60, subpart WWW; 40 CFR part 60, subpart XXX; or a Federal plan or EPA approved and effective state plan or tribal plan that implements either 40 CFR part 60, subpart Cc or 40 CFR part 60, subpart Cf.

(l) ***Electronic reporting.*** Beginning no later than September 27, 2021, the owner or operator must submit reports electronically according to paragraphs (l)(1) and (2) of this section.

(1) Within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test following the procedures specified in paragraphs (l)(1)(i) through (iii) of this section.

(i) Data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (*https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*) at the time of the test. Submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's CDX (*https://cdx.epa.gov/*). The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website.

(ii) Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test. The results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI.

(iii) Confidential business information (CBI). If you claim some of the information submitted under paragraph (a) of this section is CBI, you must submit a complete file, including information claimed to be CBI, to the EPA. The file must be generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described in paragraph (l)(1)(i) of this section.

(2) Each owner or operator required to submit reports following the procedure specified in this paragraph must submit reports to the EPA via CEDRI. CEDRI can be accessed through the EPA's CDX. The owner or operator must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri*). Once the spreadsheet template upload/forms for the reports have been available in CEDRI for 90 days, the owner or operator must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method

in which the reports are submitted. The NMOC emission rate reports, semi-annual reports, and bioreactor 40-percent moisture reports should be electronically reported as a spreadsheet template upload/form to CEDRI. If the reporting forms specific to this subpart are not available in CEDRI at the time that the reports are due, the owner or operator must submit the reports to the Administrator at the appropriate address listed in § 63.13 of subpart A.

(m) ***Claims of EPA system outage.*** Beginning no later than September 27, 2021, if you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of EPA system outage for failure to comply timely with the reporting requirement. To assert a claim of EPA system outage, you must meet the following requirements:

(1) You must have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.

(2) The outage must have occurred within the period of time beginning 5 business days prior to the date that the submission is due.

(3) The outage may be planned or unplanned.

(4) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(5) You must provide to the Administrator a written description identifying:

(i) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;

(iii) Measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

(6) The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(7) In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved.

(n) ***Claims of force majeure.*** Beginning no later than September 27, 2021, if you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of force majeure for failure to comply timely with the reporting requirement. To assert a claim of force majeure, you must meet the following requirements:

(1) You may submit a claim if a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning 5 business days prior to the date the submission is due. For the purposes of this section, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents you from complying with

the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (*e.g.,* hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (*e.g.,* large scale power outage).

(2) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(3) You must provide to the Administrator:

(i) A written description of the force majeure event;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;

(iii) Measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

(4) The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(5) In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.

[85 FR 17261, Mar. 26, 2020, as amended at 87 FR 8204, Feb. 14, 2022]

§ 63.1982 What records and reports must I submit and keep for bioreactors or liquids addition other than leachate?

Submit reports as specified in this section and § 63.1981. Keep records as specified in this section and § 63.1983.

(a) For bioreactors at new affected sources you must submit the initial semi-annual compliance report and performance test results described in § 63.1981(h) within 180 days after the date you are required to begin operating the gas collection and control system by § 63.1947(a)(2).

(b) If you must submit a semi-annual compliance report for a bioreactor as well as a semi-annual compliance report for a conventional portion of the same landfill, you may delay submittal of a subsequent semi-annual compliance report for the bioreactor according to paragraphs (b)(1) through (3) of this section so that the reports may be submitted on the same schedule.

(1) After submittal of your initial semi-annual compliance report and performance test results for the bioreactor, you may delay submittal of the subsequent semi-annual compliance report for the bioreactor until the date the initial or subsequent semi-annual compliance report is due for the conventional portion of your landfill.

(2) You may delay submittal of your subsequent semi-annual compliance report by no more than 12 months after the due date for submitting the initial semi-annual compliance report and performance test results described in § 63.1981(h) for the bioreactor. The report must cover the time period since the previous semi-annual report for the bioreactor, which would be a period of at least 6 months and no more than 12 months.

(3) After the delayed semi-annual report, all subsequent semi-annual reports for the bioreactor must be submitted every 6 months on the same date the semi-annual report for the conventional portion of the landfill is due.

(c) If you add any liquids other than leachate in a controlled fashion to the waste mass and do not comply with the bioreactor requirements in §§ 63.1947, 63.1955(b), and paragraphs (a) and (b) of this section, you must keep a record of calculations showing that the percent moisture by weight expected in the waste mass to which liquid is added is less than 40 percent. The calculation must consider the waste mass, moisture content of the incoming waste, mass of water added to the waste including leachate recirculation and other liquids addition and precipitation, and the mass of water removed through leachate or other water losses. Moisture level sampling or mass balances calculations can be used. You must document the calculations and the basis of any assumptions. Keep the record of the calculations until you cease liquids addition.

(d) If you calculate moisture content to establish the date your bioreactor is required to begin operating the collection and control system under § 63.1947(a)(2) or (c)(2), keep a record of the calculations including the information specified in paragraph (e) of this section for 5 years. Within 90 days after the bioreactor achieves 40-percent moisture content, report the results of the calculation, the date the bioreactor achieved 40-percent moisture content by weight, and the date you plan to begin collection and control system operation to the Administrator. Beginning no later than September 27, 2021, the reports should be submitted following the procedure specified in § 63.1981(l)(2).

§ 63.1983 What records must I keep?

You must keep records as specified in this subpart. You must also keep records as specified in the general provisions of 40 CFR part 63 as shown in Table 1 to this subpart.

(a) Except as provided in § 63.1981(d)(2), each owner or operator of an MSW landfill subject to the provisions of § 63.1959(b)(2)(ii) and (iii) of this chapter must keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report that triggered § 63.1959(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

(b) Except as provided in § 63.1981(d)(2), each owner or operator of a controlled landfill must keep up-to-date, readily accessible records for the life of the control system equipment of the data listed in paragraphs (b)(1) through (5) of this section as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. Records of the control device vendor specifications must be maintained until removal.

(1) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 63.1959(b)(2)(ii):

(i) The maximum expected gas generation flow rate as calculated in § 63.1960(a)(1).

(ii) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in § 63.1962(a)(1) and (2).

(2) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 63.1959(b)(2)(iii) through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts:

(i) The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test.

(ii) The percent reduction of NMOC determined as specified in § 63.1959(b)(2)(iii)(B) achieved by the control device.

(3) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 63.1959(b)(2)(iii)(B)(*1*) through use of a boiler or process heater of any size: A description of the location at which the collected gas vent stream is introduced into the boiler or process heater over the same time period of the performance testing.

(4) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 63.1959(b)(2)(iii)(A) through use of a non-enclosed flare, the flare type (*i.e.,* steam-assisted, air-assisted, or nonassisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in § 63.11; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame or the flare flame is absent.

(5) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 63.1959(b)(2)(iii)(C) through use of a landfill gas treatment system:

(i) ***Bypass records.*** Records of the flow of landfill gas to, and bypass of, the treatment system.

(ii) ***Site-specific treatment monitoring plan.*** Beginning no later than September 27, 2021, the owner or operator must prepare a site-specific treatment monitoring plan to include:

(A) Monitoring records of parameters that are identified in the treatment system monitoring plan and that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. At a minimum, records should include records of filtration, de-watering, and compression parameters that ensure the treatment system is operating properly for each intended end use of the treated landfill gas.

(B) Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.

(C) Documentation of the monitoring methods and ranges, along with justification for their use.

(D) List of responsible staff (by job title) for data collection.

(E) Processes and methods used to collect the necessary data.

(F) Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems (CMS).

(c) Except as provided in § 63.1981(d)(2), each owner or operator of a controlled landfill subject to the provisions of this subpart must keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in § 63.1961 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

(1) The following constitute exceedances that must be recorded and reported under § 63.1981(h):

(i) For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million Btu per hour) or greater, all 3-hour periods of operation during which the average temperature was more than 28 degrees Celsius (82 degrees Fahrenheit) below the average combustion temperature during the most recent performance test at which compliance with § 63.1959(b)(2)(iii) was determined.

(ii) For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under paragraph (b)(3) of this section.

(2) Each owner or operator subject to the provisions of this subpart must keep up-to-date, readily accessible continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under § 63.1961(b)(2)(ii), (c)(2)(ii), and (g)(2).

(3) Each owner or operator subject to the provisions of this subpart who uses a boiler or process heater with a design heat input capacity of 44 megawatts or greater to comply with § 63.1959(b)(2)(iii) must keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other state, local, tribal, or federal regulatory requirements.

(4) Each owner or operator seeking to comply with the provisions of this subpart by use of a non-enclosed flare must keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under § 63.1961(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

(5) Each owner or operator of a landfill seeking to comply with § 63.1959(b)(2) using an active collection system designed in accordance with § 63.1959(b)(2)(ii) must keep records of periods when the collection system or control device is not operating.

(6) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the operational standard in § 63.1958(e)(1), the date, time, and duration of each startup and/or shutdown period, recording the periods when the affected source was subject to the standard applicable to startup and shutdown.

(7) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the operational standard in § 63.1958(e)(1), in the event that an affected unit fails to meet an applicable standard, record the information below in this paragraph:

(i) For each failure record the date, time and duration of each failure and the cause of such events (including unknown cause, if applicable).

(ii) For each failure to meet an applicable standard; record and retain a list of the affected sources or equipment.

(iii) Record actions taken to minimize emissions in accordance with the general duty of § 63.1955(c) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(8) Beginning no later than September 27, 2021, in lieu of the requirements specified in § 63.8(d)(3) of subpart A you must keep the written procedures required by § 63.8(d)(2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, you must keep previous (*i.e.,* superseded) versions of the performance evaluation plan on

record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under § 63.8(d)(2).

(d) Except as provided in § 63.1981(d)(2), each owner or operator subject to the provisions of this subpart must keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector.

(1) Each owner or operator subject to the provisions of this subpart must keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under § 63.1960(b).

(2) Each owner or operator subject to the provisions of this subpart must keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in § 63.1962(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in § 63.1962(a)(3)(ii).

(e) Except as provided in § 63.1981(d)(2), each owner or operator subject to the provisions of this subpart must keep for at least 5 years up-to-date, readily accessible records of the following:

(1) All collection and control system exceedances of the operational standards in § 63.1958, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

(2) Each owner or operator subject to the control provisions of this subpart must keep records of each wellhead temperature monitoring value of greater than 55 degrees Celsius (131 degrees Fahrenheit), each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent, except:

(i) When an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the compliance provisions for wellhead temperature in § 63.1958(c)(1), but no later than September 27, 2021, the records of each wellhead temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above instead of values greater than 55 degrees Celsius (131 degrees Fahrenheit).

(ii) Each owner or operator required to conduct the enhanced monitoring provisions in § 63.1961(a)(5), must also keep records of all enhanced monitoring activities.

(iii) Each owner or operator required to submit the *24-hour high temperature report in* § 63.1981(k), must also keep a record of the email transmission.

(3) For any root cause analysis for which corrective actions are required in § 63.1960(a)(3)(i)(A) or (a)(4)(i)(A), keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed.

(4) For any root cause analysis for which corrective actions are required in § 63.1960(a)(3)(i)(B) or (a)(4)(i)(B), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

(5) For any root cause analysis for which corrective actions are required in § 63.1960(a)(3)(i)(C) or (a)(4)(i)(C), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the Administrator.

(f) Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million Mg or 2.5 million m^3, as provided in the definition of "design capacity," must keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

(g) Except as provided in § 63.1981(d)(2), each owner or operator subject to the provisions of this subpart must keep for at least 5 years up-to-date, readily accessible records of all collection and control system monitoring data for parameters measured in § 63.1961(a)(1) through (6).

(h) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1), you must keep the following records.

(1) Records of the landfill gas temperature on a monthly basis as monitored in § 63.1960(a)(4).

(2) Records of enhanced monitoring data at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as gathered in § 63.1961(a)(5) and (6).

(i) Any records required to be maintained by this subpart that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.

(ii) [Reserved]

[85 FR 17261, Mar. 26, 2020, as amended at 85 FR 64401, Oct. 13, 2020]

Other Requirements and Information

§ 63.1985 Who enforces this subpart?

(a) This subpart can be implemented and enforced by the EPA, or a delegated authority such as the applicable state, local, or tribal agency. If the EPA Administrator has delegated authority to a state, local, or tribal agency, then that agency as well as the EPA has the authority to implement and enforce this subpart. Contact the applicable 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 EPA Administrator and are not transferred to the state, local, or tribal agency.

(c) The authorities that will not be delegated to state, local, or tribal agencies are as follows. Approval of alternatives to the emission standards in §§ 63.1955 through 63.1962. Where this subpart references part 60, subpart WWW of this subchapter, the cited provisions will be delegated according to the delegation

provisions of part 60, subpart WWW of this subchapter. For this subpart, the EPA also retains the authority to approve methods for determining the NMOC concentration in § 63.1959(a)(3) and the method for determining the site-specific methane generation rate constant k in § 63.1959(a)(4).

[85 FR 17261, Mar. 26, 2020, as amended at 87 FR 8204, Feb. 14, 2022]

§ 63.1990 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, 40 CFR part 60, subparts A, Cc, Cf, WWW, and XXX; 40 CFR part 62, subpart GGG, and subpart A of this part, and this section that follows:

Active collection system means a gas collection system that uses gas mover equipment.

Active landfill means a landfill in which solid waste is being placed or a landfill that is planned to accept waste in the future.

Bioreactor means an MSW landfill or portion of an MSW landfill where any liquid other than leachate (leachate includes landfill gas condensate) is added in a controlled fashion into the waste mass (often in combination with recirculating leachate) to reach a minimum average moisture content of at least 40 percent by weight to accelerate or enhance the anaerobic (without oxygen) biodegradation of the waste.

Closed area means a separately lined area of an MSW landfill in which solid waste is no longer being placed. If additional solid waste is placed in that area of the landfill, that landfill area is no longer closed. The area must be separately lined to ensure that the landfill gas does not migrate between open and closed areas.

Closed landfill means a landfill in which solid waste is no longer being placed, and in which no additional solid wastes will be placed without first filing a notification of modification as prescribed under § 63.9(b). Once a notification of modification has been filed, and additional solid waste is placed in the landfill, the landfill is no longer closed.

Closure means that point in time when a landfill becomes a closed landfill.

Commercial solid waste means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

Controlled landfill means any landfill at which collection and control systems are required under this subpart as a result of the nonmethane organic compounds emission rate. The landfill is considered controlled at the time a collection and control system design plan is submitted in compliance with § 60.752(b)(2)(i) of this chapter or in compliance with § 63.1959(b)(2)(i).

Corrective action analysis means a description of all reasonable interim and long-term measures, if any, that are available, and an explanation of why the selected corrective action(s) is/are the best alternative(s), including, but not limited to, considerations of cost effectiveness, technical feasibility, safety, and secondary impacts.

Cover penetration means a wellhead, a part of a landfill gas collection or operations system, and/or any other object that completely passes through the landfill cover. The landfill cover includes that portion which covers the waste, as well as the portion which borders the waste extended to the point where it is sealed with the landfill liner or the surrounding land mass. Examples of what is not a penetration for purposes of this subpart include but are not limited to: Survey stakes, fencing including litter fences, flags, signs, utility posts, and trees so long as these items do not pass through the landfill cover.

Design capacity means the maximum amount of solid waste a landfill can accept, as indicated in terms of volume or mass in the most recent permit issued by the state, local, or tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million Mg or 2.5 million m^3, the calculation must include a site-specific density, which must be recalculated annually.

Deviation before September 28, 2021, 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 emissions limitation (including any operating limit) or work practice requirement;

(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, (including any operating limit), or work practice requirement in this subpart during SSM, regardless of whether or not such failure is permitted by this subpart.

Deviation beginning no later than September 27, 2021, 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 limit, or operating limit, or work practice requirement; or

(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.

Disposal facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

Emissions limitation means any emission limit, opacity limit, operating limit, or visible emissions limit.

Enclosed combustor means an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. An enclosed flare is considered an enclosed combustor.

EPA approved State plan means a State plan that EPA has approved based on the requirements in 40 CFR part 60, subpart B to implement and enforce 40 CFR part 60, subparts Cc or Cf. An approved state plan becomes effective on the date specified in the document published in the FEDERAL REGISTER announcing EPA's approval.

EPA approved Tribal plan means a plan submitted by a tribal authority pursuant to 40 CFR parts 9, 35, 49, 50, and 81 to implement and enforce 40 CFR part 60, subpart Cc or subpart Cf.

Federal plan means the EPA plan to implement 40 CFR part 60, subparts Cc or Cf for existing MSW landfills located in states and Indian country where state plans or tribal plans are not currently in effect. On the effective date of an EPA approved state or tribal plan, the Federal Plan no longer applies. The Federal Plan implementing 40 CFR part 60, subpart Cc is found at 40 CFR part 62, subpart GGG.

Flare means an open combustor without enclosure or shroud.

Gas mover equipment means the equipment (*i.e.,* fan, blower, compressor) used to transport landfill gas through the header system.

Household waste means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including, but not limited to, single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas). Household waste does not include fully segregated yard waste. Segregated yard waste means vegetative matter resulting exclusively from the cutting of grass, the pruning and/or removal of bushes, shrubs, and trees, the weeding of gardens, and other landscaping maintenance activities. Household waste does not include construction, renovation, or demolition wastes, even if originating from a household.

Industrial solid waste means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of the Resource Conservation and Recovery Act, 40 CFR parts 264 and 265. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Interior well means any well or similar collection component located inside the perimeter of the landfill waste. A perimeter well located outside the landfilled waste is not an interior well.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile as those terms are defined under § 257.2 of this chapter.

Lateral expansion means a horizontal expansion of the waste boundaries of an existing MSW landfill. A lateral expansion is not a modification unless it results in an increase in the design capacity of the landfill.

Leachate recirculation means the practice of taking the leachate collected from the landfill and reapplying it to the landfill by any of one of a variety of methods, including pre-wetting of the waste, direct discharge into the working face, spraying, infiltration ponds, vertical injection wells, horizontal gravity distribution systems, and pressure distribution systems.

Modification means an increase in the permitted volume design capacity of the landfill by either lateral or vertical expansion based on its permitted design capacity after November 7, 2000. Modification does not occur until the owner or operator commences construction on the lateral or vertical expansion.

Municipal solid waste landfill or *MSW landfill* means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. An MSW landfill may also receive other types of RCRA Subtitle D wastes (§ 257.2 of this chapter) such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned. An MSW landfill may be a new MSW landfill, an existing MSW landfill, or a lateral expansion.

Municipal solid waste landfill emissions or *MSW landfill emissions* means gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste.

NMOC means nonmethane organic compounds, as measured according to the provisions of § 63.1959.

Nondegradable waste means any waste that does not decompose through chemical breakdown or microbiological activity. Examples are, but are not limited to, concrete, municipal waste combustor ash, and metals.

Passive collection system means a gas collection system that solely uses positive pressure within the landfill to move the gas rather than using gas mover equipment.

Root cause analysis means an assessment conducted through a process of investigation to determine the primary cause, and any other contributing causes, of an exceedance of a standard operating parameter at a wellhead.

Segregated yard waste means vegetative matter resulting exclusively from the cutting of grass, the pruning and/or removal of bushes, shrubs, and trees, the weeding of gardens, and other landscaping maintenance activities.

Sludge means the term sludge as defined in § 258.2 of this chapter.

Solid waste means the term solid waste as defined in § 258.2 of this chapter.

Sufficient density means any number, spacing, and combination of collection system components, including vertical wells, horizontal collectors, and surface collectors, necessary to maintain emission and migration control as determined by measures of performance set forth in this subpart.

Sufficient extraction rate means a rate sufficient to maintain a negative pressure at all wellheads in the collection system without causing air infiltration, including any wellheads connected to the system as a result of expansion or excess surface emissions, for the life of the blower.

Treated landfill gas means landfill gas processed in a treatment system as defined in this subpart.

Treatment system means a system that filters, de-waters, and compresses landfill gas for sale or beneficial use.

Untreated landfill gas means any landfill gas that is not treated landfill gas.

Work practice requirement means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

Table 1 to Subpart AAAA of Part 63—Applicability of NESHAP General Provisions to Subpart AAAA

As specified in this subpart, you must meet each requirement in the following table that applies to you. The owner or operator may begin complying with the provisions that apply no later than September 27, 2021, any time before that date.

Table 1 to Subpart AAAA of Part 63—Applicability of NESHAP General Provisions to Subpart AAAA

Part 63 citation	Description	Applicable to subpart AAAA before September 28, 2021	Applicable to subpart AAAA no later than September 27, 2021	Explanation
§ 63.1(a)	Applicability: General applicability of NESHAP in this part	Yes	Yes	
§ 63.1(b)	Applicability determination for stationary sources	Yes	Yes	
§ 63.1(c)	Applicability after a standard has been set	No [1]	Yes	
§ 63.1(e)	Applicability of permit program before relevant standard is set	Yes	Yes	
§ 63.2	Definitions	Yes	Yes	
§ 63.3	Units and abbreviations	No [1]	Yes	
§ 63.4	Prohibited activities and circumvention	Yes	Yes	
§ 63.5(a)	Construction/ reconstruction	No [1]	Yes	
§ 63.5(b)	Requirements for existing, newly constructed, and reconstructed sources	Yes	Yes	
§ 63.5(d)	Application for approval of	No [1]	Yes	

[1] *Before September 28, 2021, this subpart requires affected facilities to follow 40 CFR part 60, subpart WWW, which incorporates the General Provisions of 40 CFR part 60.*

[2] *If an owner or operator has complied with requirements that are parallel to the requirements of the part 63 citation of this table under 40 CFR part 60, subpart WWW or subpart XXX, or a state or federal plan that implements 40 CFR part 60, subpart Cc or Cf, then additional notification for that requirement is not required.*

Part 63 citation	Description	Applicable to subpart AAAA before September 28, 2021	Applicable to subpart AAAA no later than September 27, 2021	Explanation
	construction or reconstruction			
§ 63.5(e) and (f)	Approval of construction and reconstruction	No [1]	Yes	
§ 63.6(a)	Compliance with standards and maintenance requirements—applicability	No [1]	Yes	
§ 63.6(b) and (c)	Compliance dates for new, reconstructed, and existing sources	No [1]	Yes	
§ 63.6(e)(1)(i)-(ii)	Operation and maintenance requirements	Yes	No	See § 63.1955(c) for general duty requirements.
§ 63.6(e)(3)(i)-(ix)	SSM plan	Yes	No	
§ 63.6(f)(1)	Exemption of nonopacity emission standards during SSM	No	No	
§ 63.6(f)(2) and (3)	Compliance with nonopacity emission standards	Yes	Yes	
§ 63.6(g)	Use of an alternative nonopacity standard	No [1]	Yes	
§ 63.6(h)	Compliance with opacity and visible emission standards	No [1]	No	Subpart AAAA does not prescribe opacity or visible emission standards.
§ 63.6(i)	Extension of compliance with emission standards	No [1]	Yes	
§ 63.6(j)	Exemption from	No [1]	Yes	

[1] Before September 28, 2021, this subpart requires affected facilities to follow 40 CFR part 60, subpart WWW, which incorporates the General Provisions of 40 CFR part 60.

[2] If an owner or operator has complied with requirements that are parallel to the requirements of the part 63 citation of this table under 40 CFR part 60, subpart WWW or subpart XXX, or a state or federal plan that implements 40 CFR part 60, subpart Cc or Cf, then additional notification for that requirement is not required.

Part 63 citation	Description	Applicable to subpart AAAA before September 28, 2021	Applicable to subpart AAAA no later than September 27, 2021	Explanation
	compliance with emission standards			
§ 63.7	Performance testing	No [1]	Yes	
§ 63.7(e)(1)	Conditions for performing performance tests	No [1]	No	40 CFR 63.1959(f) specifies the conditions for performing performance tests.
§ 63.8(a) and (b)	Monitoring requirements—Applicability and conduct of monitoring	No [1]	Yes	
§ 63.8(c)(1)	Operation and Maintenance of continuous emissions monitoring system	No [1]	Yes	
§ 63.8(c)(1)(i)	Operation and Maintenance Requirements	No [1]	No	Unnecessary due to the requirements of § 63.8(c)(1) and the requirements for a quality control plan for monitoring equipment in § 63.8(d)(2).
§ 63.8(c)(1)(ii)	Operation and Maintenance Requirements	No [1]	No	
§ 63.8(c)(1)(iii)	SSM plan for monitors	No [1]	No	
§ 63.8(c)(2)-(8)	Monitoring requirements	No [1]	Yes	
§ 63.8(d)(1)	Quality control for monitors	No [1]	Yes	
§ 63.8(d)(2)	Quality control for monitors	No [1]	Yes	
§ 63.8(d)(3)	Quality control records	No [1]	No	See § 63.1983(c)(8).

[1] Before September 28, 2021, this subpart requires affected facilities to follow 40 CFR part 60, subpart WWW, which incorporates the General Provisions of 40 CFR part 60.

[2] If an owner or operator has complied with requirements that are parallel to the requirements of the part 63 citation of this table under 40 CFR part 60, subpart WWW or subpart XXX, or a state or federal plan that implements 40 CFR part 60, subpart Cc or Cf, then additional notification for that requirement is not required.

Part 63 citation	Description	Applicable to subpart AAAA before September 28, 2021	Applicable to subpart AAAA no later than September 27, 2021	Explanation
§ 63.9(a), (c), and (d)	Notifications	No [1]	Yes	
§ 63.9(b)	Initial notifications	No [1]	Yes [2]	
§ 63.9(e)	Notification of performance test	No [1]	Yes [2]	
§ 63.9(f)	Notification of visible emissions/opacity test	No [1]	No	Subpart AAAA does not prescribe opacity or visible emission standards.
§ 63.9(g)	Notification when using CMS	No [1]	Yes [2]	
§ 63.9(h)	Notification of compliance status	No [1]	Yes [2]	
§ 63.9(i)	Adjustment of submittal deadlines	No [1]	Yes	
§ 63.9(j)	Change in information already provided	No [1]	Yes	
§ 63.10(a)	Recordkeeping and reporting—general	No [1]	Yes	
§ 63.10(b)(1)	General recordkeeping	No [1]	Yes	
§ 63.10(b)(2)(i)	Startup and shutdown records	Yes	No	See § 63.1983(c)(6) for recordkeeping for periods of startup and shutdown.
§ 63.10(b)(2)(ii)	Recordkeeping of failures to meet a standard	Yes	No	See § 63.1983(c)(6)-(7) for recordkeeping for any exceedance of a standard.
§ 63.10(b)(2)(iii)	Recordkeeping of maintenance on air pollution control equipment	Yes	Yes	

[1] Before September 28, 2021, this subpart requires affected facilities to follow 40 CFR part 60, subpart WWW, which incorporates the General Provisions of 40 CFR part 60.

[2] If an owner or operator has complied with requirements that are parallel to the requirements of the part 63 citation of this table under 40 CFR part 60, subpart WWW or subpart XXX, or a state or federal plan that implements 40 CFR part 60, subpart Cc or Cf, then additional notification for that requirement is not required.

Part 63 citation	Description	Applicable to subpart AAAA before September 28, 2021	Applicable to subpart AAAA no later than September 27, 2021	Explanation
§ 63.10(b)(2)(iv)-(v)	Actions taken to minimize emissions during SSM	Yes	No	See § 63.1983(c)(7) for recordkeeping of corrective actions to restore compliance.
§ 63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	No[1]	Yes	
§ 63.10(b)(2)(vii)-(xiv)	Other Recordkeeping of compliance measurements	No[1]	Yes	
§ 63.10(c)	Additional recordkeeping for sources with CMS	No [1]	No	See § 63.1983 for required CMS recordkeeping.
§ 63.10(d)(1)	General reporting	No [1]	Yes	
§ 63.10(d)(2)	Reporting of performance test results	No [1]	Yes	
§ 63.10(d)(3)	Reporting of visible emission observations	No [1]	No	
§ 63.10(d)(4)	Progress reports for compliance date extensions	No [1]	Yes	
§ 63.10(d)(5)	SSM reporting	Yes	No	All exceedances must be reported in the semi-annual report required by § 63.1981(h).
§ 63.10(e)	Additional reporting for CMS systems	No [1]	Yes	
§ 63.10(f)	Recordkeeping/reporting waiver	No [1]	Yes	
§ 63.11	Control device requirements/flares	No [1]	Yes	§ 60.18 is required before September 27, 2021. However, § 60.18 and

[1] Before September 28, 2021, this subpart requires affected facilities to follow 40 CFR part 60, subpart WWW, which incorporates the General Provisions of 40 CFR part 60.

[2] If an owner or operator has complied with requirements that are parallel to the requirements of the part 63 citation of this table under 40 CFR part 60, subpart WWW or subpart XXX, or a state or federal plan that implements 40 CFR part 60, subpart Cc or Cf, then additional notification for that requirement is not required.

Part 63 citation	Description	Applicable to subpart AAAA before September 28, 2021	Applicable to subpart AAAA no later than September 27, 2021	Explanation
				63.11 are equivalent.
§ 63.12(a)	State authority	Yes	Yes	
§ 63.12(b)-(c)	State delegations	No [1]	Yes	
§ 63.13	Addresses	No [1]	Yes	
§ 63.14	Incorporation by reference	No [1]	Yes	
§ 63.15	Availability of information and confidentiality	Yes	Yes	

[1] Before September 28, 2021, this subpart requires affected facilities to follow 40 CFR part 60, subpart WWW, which incorporates the General Provisions of 40 CFR part 60.

[2] If an owner or operator has complied with requirements that are parallel to the requirements of the part 63 citation of this table under 40 CFR part 60, subpart WWW or subpart XXX, or a state or federal plan that implements 40 CFR part 60, subpart Cc or Cf, then additional notification for that requirement is not required.

[85 FR 17261, Mar. 26, 2020, as amended at 85 FR 64401, Oct. 13, 2020; 87 FR 8204, Feb. 14, 2022]

Appendix C:

40 C.F.R. Part 63, Subpart ZZZZ

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 63 —National Emission Standards for Hazardous Air Pollutants for Source Categories

Authority: 42 U.S.C. 7401 *et seq.*

Source: 57 FR 61992, Dec. 29, 1992, unless otherwise noted.

Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

What This Subpart Covers

§ 63.6580 What is the purpose of subpart ZZZZ?

§ 63.6585 Am I subject to this subpart?

§ 63.6590 What parts of my plant does this subpart cover?

§ 63.6595 When do I have to comply with this subpart?

Emission and Operating Limitations

§ 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?

§ 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?

§ 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?

§ 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?

§ 63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

Testing and Initial Compliance Requirements

§ 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?

§ 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?

§ 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?
§ 63.6615 When must I conduct subsequent performance tests?
§ 63.6620 What performance tests and other procedures must I use?
§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?
§ 63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?
Continuous Compliance Requirements
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§ 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?
Notifications, Reports, and Records
§ 63.6645 What notifications must I submit and when?
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Other Requirements and Information
§ 63.6665 What parts of the General Provisions apply to me?
§ 63.6670 Who implements and enforces this subpart?
§ 63.6675 What definitions apply to this subpart?
Table 1a to Subpart ZZZZ of Part 63
Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions
Table 1b to Subpart ZZZZ of Part 63
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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
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

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

Table 2d to Subpart ZZZZ of Part 63

Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

Table 3 to Subpart ZZZZ of Part 63

Subsequent Performance Tests

Table 4 to Subpart ZZZZ of Part 63

Requirements for Performance Tests

Table 5 to Subpart ZZZZ of Part 63

Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

Table 6 to Subpart ZZZZ of Part 63

Continuous Compliance With Emission Limitations, and Other Requirements

Table 7 to Subpart ZZZZ of Part 63

Requirements for Reports

Table 8 to Subpart ZZZZ of Part 63

Applicability of General Provisions to Subpart ZZZZ

Appendix A to Subpart ZZZZ of Part 63

Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

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

What This Subpart Covers

§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§ 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 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 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 for the purpose specified in § 63.6640(f)(4)(ii).

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008; 78 FR 6700, Jan. 30, 2013; 87 FR 48607, Aug. 10, 2022]

§ 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.

(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.

(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; 87 FR 48607, Aug. 10, 2022]

§ 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]

EMISSION AND OPERATING LIMITATIONS

§ 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]

§ 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]

§ 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]

§ 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 within 1 year + 30 days of the previous change, 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 within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary.

(4) Inspect all flexible hoses every 1,000 hours of operation or within 1 year + 30 days of the previous inspection, 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; 89 FR 70515, Aug. 30, 2024]

§ 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 1090.305 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 for the purpose specified in § 63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in 40 CFR 1090.305 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) [Reserved]

(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, as amended at 85 FR 78463, Dec. 4, 2020; 87 FR 48607, Aug. 10, 2022]

GENERAL COMPLIANCE REQUIREMENTS

§ 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]

Testing and Initial Compliance Requirements

§ 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]

§ 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]

§ 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]

§ 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.

§ 63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

(1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

(3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

(e)

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

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

Where:

C_i = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

C_o = concentration of CO, THC, or formaldehyde at the control device outlet, and

R = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2 concentration is measured in lieu of oxygen concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

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

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

Where:

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

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

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

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

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

$$X_{CO2} = \frac{5.9}{F_o} \quad (Eq.\ 3)$$

Where:

X_{CO2} = CO_2 correction factor, percent.

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

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO_2} \quad (Eq.\ 4)$$

Where:

C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O_2.

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

X_{CO2} = CO_2 correction factor, percent.

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

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

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

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

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

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

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,* wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

(j) Beginning on February 26, 2025, within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test following the procedure specified in § 63.9(k). Data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (*https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*) at the time of the test must be submitted in a file format generated using the EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website. Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test must be included as an attachment in the ERT or alternate electronic file.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010; 78 FR 6702, Jan. 30, 2013; 89 FR 70516, Aug. 30, 2024]

§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O_2 or CO_2 according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in § 63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in § 63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in § 63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2 concentration.

(5) Beginning on February 26, 2025, within 60 days after the date of completing each continuous emissions monitoring system (CEMS) performance evaluation (as defined in § 63.2) that includes a relative accuracy test audit (RATA), you must submit the results of the performance evaluation following the procedures specified in § 63.9(k). The results of performance evaluations of CEMS measuring RATA pollutants that are supported by the EPA's ERT as listed on the EPA's ERT website at the time of the evaluation must be submitted in a file format generated using the EPA's ERT. Alternatively, you may submit an electronic file consistent with the XML schema listed on the EPA's ERT website. The results of performance evaluations of CEMS measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the evaluation must be included as an attachment in the ERT or alternate electronic file.

(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 and filter 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 and filter 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 and filter. If any of the limits are exceeded, the engine owner or operator must change the oil and filter 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 and filter 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 and filter 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, 8, 10, 11, or 13 of table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil and filter 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 and filter 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 and filter. If any of the limits are exceeded, the engine owner or operator must change the oil and filter 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 and filter 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 and filter 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; 89 FR 70516, Aug. 30, 2024]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.6645.

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least three test runs.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

[69 FR 33506, June 15, 2004, as amended at 78 FR 6704, Jan. 30, 2013]

CONTINUOUS COMPLIANCE REQUIREMENTS

§ 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]

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in § 63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least one test run.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4), is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4), 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 the purpose specified in paragraph (f)(2)(i) 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)-(iii) [Reserved]

(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 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 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; 87 FR 48607, Aug. 10, 2022]

NOTIFICATIONS, REPORTS, AND RECORDS

§ 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, or no later than 120 days after the source becomes subject to this subpart, whichever is later. Beginning on February 26, 2025, submit the notification electronically in portable document format (PDF) consistent with § 63.9(k).

(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. Beginning on February 26, 2025, submit the notification electronically in PDF consistent with § 63.9(k).

(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, or no later than 120 days after the source becomes subject to this subpart, whichever is later. Beginning on February 26, 2025, submit the notification electronically in PDF consistent with § 63.9(k).

(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. Beginning on February 26, 2025, submit the notification electronically in PDF consistent with § 63.9(k).

(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) Before February 26, 2025, 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). Beginning on February 26, 2025, 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 a summary of the performance test results, in PDF to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), before the close of business on the 60th day following the completion of the performance test following the procedure specified in § 63.9(k), except any Confidential Business Information (CBI) is to be submitted according to paragraphs (h)(2)(i) and (ii) of this section. Do not use CEDRI to submit information you claim as CBI. Although we do not expect persons to assert a claim of CBI, if you wish to assert a CBI claim for some of the information in the report, you must submit a complete file, including information claimed to be CBI, to the EPA following the procedures in paragraphs (h)(2)(i) and (ii) of this section. Clearly mark the part or all of the information that you claim to be CBI. Information not marked as CBI may be authorized for public release without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. All CBI claims must be asserted at the time of submission. Anything submitted using CEDRI cannot later be claimed CBI. Furthermore, under CAA section 114(c), emissions data is not entitled to confidential treatment, and the EPA is required to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available. You must submit the same file submitted to the CBI office with the CBI omitted to the EPA via the EPA's CDX as described earlier in this paragraph (h)(2).

(i) The preferred method to receive CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol, or other online file sharing services. Electronic submissions must be transmitted directly to the OAQPS CBI Office at the email address *oaqpscbi@epa.gov*, and as described in paragraph (h)(2) of this section, should include clear CBI markings and be flagged to the attention of the Reciprocating Internal Combustion Engine Sector Lead. If assistance is needed with submitting large electronic files that exceed the file size limit for email attachments, and if you do not have your own file sharing service, please email *oaqpscbi@epa.gov* to request a file transfer link.

(ii) If you cannot transmit the file electronically, you may send CBI information through the postal service to the following address: OAQPS Document Control Officer (C404-02), OAQPS, U.S. Environmental Protection Agency, 109 T.W. Alexander Drive, P.O. Box 12055, Research Triangle Park, North Carolina 27711, Attention Reciprocating Internal Combustion Engine Sector Lead. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope.

(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; 85 FR 73912, Nov. 19, 2020; 89 FR 70516, Aug. 30, 2024]

§ 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 (8) 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 starting and ending date and time, the duration (in hours), and a brief description for each 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.

(7) Engine site rating in brake HP, year construction of the engine commenced (as defined in § 63.2, where the exact year is not known, provide the best estimate), and type of engine (CI, SI 2SLB, SI 4SLB, or SI 4SRB).

(8) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(9) An engine can be claimed as exempt from reporting coordinates (latitude/longitude) via CEDRI if:

(i) During the reporting period, the engine will be owned by, or operated by or for, an agency of the Federal Government responsible for national defense; and

(ii) The agency determines that disclosing the coordinates to the general public would be a threat to national security.

(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 (8) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time (in hours) of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration (in hours), and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(3) A description of any changes in processes, or controls since the last reporting period.

(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 (8) and (e)(1) through (13) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The start and end date and time and the duration (in hours) that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The start and end date and time and the duration (in hours) 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 (in hours) 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 (in hours) 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 (in hours) 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) [Reserved]

(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.

(13) The total operating time of the stationary RICE at which the deviation occurred during the 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. Beginning on February 26, 2025, the semiannual and annual compliance report required in table 7 of this subpart must be submitted according to paragraph (i) of this section. Only those elements required under this subpart are required to be submitted according to paragraph (i) of this section.

(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 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 in brake HP, year construction of the engine commenced (as defined in § 63.2, where the exact year is not known, provide the best estimate), and type of engine (CI, SI 2SLB, SI 4SLB, or SI 4SRB).

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v)-(vi) [Reserved]

(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 (in hours), 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) Before February 26, 2025, 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) (*https://cdx.epa.gov/*). 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. Beginning on February 26, 2025, the annual report must be submitted according to paragraph (i) of this section.

(i) Beginning on February 26, 2025 for the annual report specified in § 63.6650(h) and February 26, 2025 or one year after the report becomes available in CEDRI, whichever is later for all other semiannual or annual reports, submit all semiannual and annual subsequent compliance reports using the appropriate electronic report template on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/cedri*) for this subpart and following the procedure specified in § 63.9(k), except any CBI must be submitted according to the procedures in § 63.6645(h). The date report templates become available will be listed on the CEDRI website. Unless the Administrator or delegated state agency or other authority has approved a different schedule for submission of reports, the report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010; 78 FR 6705, Jan. 30, 2013; 87 FR 48607, Aug. 10, 2022; 89 FR 70517, Aug. 30, 2024]

§ 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 (in hours) 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 purpose specified in § 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; 87 FR 48607, Aug. 10, 2022; 89 FR 70518, Aug. 30, 2024]

§ 63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

OTHER REQUIREMENTS AND INFORMATION

§ 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]

§ 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).

(6) Approval of an alternative to any electronic reporting to the EPA required by this subpart.

[69 FR 33506, June 15, 2004, as amended at 89 FR 70518, Aug. 30, 2024]

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Alaska Railbelt Grid means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Backup power for renewable energy means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see § 63.14).

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101-549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

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

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by § 63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in § 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in § 63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in § 63.6640(f).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in § 63.6640(f)(4)(i) or (ii).

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

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

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

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

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

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

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

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

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in § 63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in § 63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in § 63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

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

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X, CO, and volatile organic compounds (VOC) into CO_2, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in § 63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to § 63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to § 63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Remote stationary RICE means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_X (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

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

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

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

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

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

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011; 78 FR 6706, Jan. 30, 2013; 87 FR 48608, Aug. 10, 2022]

Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]

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

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
	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]

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 existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP	Comply with any operating limitations approved by the Administrator.

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

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and not using NSCR.	

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

[78 FR 6706, Jan. 30, 2013]

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	

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

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

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

[75 FR 9680, Mar. 3, 2010]

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	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of

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

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
oxidation catalyst	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 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.	Comply with any operating limitations approved by the Administrator.

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

[78 FR 6707, Jan. 30, 2013]

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 within 1 year + 30 days of the previous change, whichever comes first [2]. b. Inspect air cleaner every 1,000 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or within 1 year + 30 days of the previous inspection, 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]

[1] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.

[2] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2c of this subpart.

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

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or within 1 year + 30 days of the previous change, whichever comes first [2].	
	b. Inspect air cleaner every 1,000 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 500 hours of operation or within 1 year + 30 days of the previous inspection, 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	

[1] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.

[2] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2c of this subpart.

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

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	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 within 1 year + 30 days of the previous change, whichever comes first; [2]	
	b. Inspect spark plugs every 1,000 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 500 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary [3]	

[1] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.

[2] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2c of this subpart.

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

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
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 within 1 year + 30 days of the previous change, whichever comes first; [2] b. Inspect spark plugs every 1,440 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary c. Inspect all hoses and belts every 1,440 hours of operation or within 1 year + 30 days of the previous inspection, 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 within 1 year + 30 days of the previous change, whichever comes first; [2] b. Inspect spark plugs every 4,320 hours of	

[1] *If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.*

[2] *Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2c of this subpart.*

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

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 4,320 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary [3]	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2	
12. Non-emergency, non-black start stationary RICE 100≤HP≤500 which	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or	

[1] *If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.*

[2] *Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2c of this subpart.*

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

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	less at 15 percent O_2	

[1] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.

[2] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2c of this subpart.

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

[89 FR 70518, Aug. 30, 2024]

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§ 63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or within 1 year + 30 days of the previous change, whichever comes first; [1] b. Inspect air cleaner every 1,000 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or within 1 year + 30 days of the previous inspection, 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(i) or (j) in order to extend the specified oil change requirement in table 2d of this subpart.*

[2] *If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.*

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
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 within 1 year + 30 days of the previous change, whichever comes first; [1] b. Inspect air cleaner every 1,000 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes	

[1] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2d of this subpart.

[2] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or within 1 year + 30 days of the previous change, whichever comes first; [1] b. Inspect spark plugs every 1,000 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or	

[1] *Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2d of this subpart.*

[2] *If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.*

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	within 1 year + 30 days of the previous inspection, 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 within 1 year + 30 days of the previous change, whichever comes first; [1]	
	b. Inspect spark plugs every 4,320 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary	

[1] *Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2d of this subpart.*

[2] *If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.*

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or within 1 year + 30 days of the previous change, whichever comes first; [1] b. Inspect spark plugs every 1,440 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 1,440 hours of operation or within 1 year + 30 days of the previous inspection, 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 within 1 year + 30 days of the previous	

[1] *Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2d of this subpart.*

[2] *If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.*

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	change, whichever comes first; [1] b. Inspect spark plugs every 2,160 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 2,160 hours of operation or within 1 year + 30 days of the previous inspection, 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 within 1 year + 30 days of the previous	

[1] *Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2d of this subpart.*

[2] *If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.*

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	change, whichever comes first; [1] b. Inspect spark plugs every 1,440 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 1,440 hours of operation or within 1 year + 30 days of the previous inspection, 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 within 1 year + 30 days of the previous change, whichever comes first; [1] b. Inspect spark plugs every 2,160 hours of operation or	

[1] *Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2d of this subpart.*

[2] *If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.*

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 2,160 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary	
12. Non-emergency, non-black start 4SRB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	a. Change oil and filter every 1,440 hours of operation or within 1 year + 30 days of the previous change, whichever comes first; [1] b. Inspect spark plugs every 1,440 hours of operation or	

[1] *Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2d of this subpart.*

[2] *If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.*

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 1,440 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary	

[1] *Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in table 2d of this subpart.*

[2] *If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, state or local law under which the risk was deemed unacceptable.*

[89 FR 70520, Aug. 30, 2024]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§ 63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE >500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥250 HP located at major sources; and new or reconstructed CI stationary RICE >500 HP located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]
2. 4SRB stationary RICE ≥5,000 HP located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE >500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI 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.

[1] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

[78 FR 6711, Jan. 30, 2013]

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, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of section 11.1.1 of method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to section 8.1.2 of method 7E of 40 CFR part 60, appendix A-4.
		ii. Measure 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 D6522-00 (Reapproved 2005) [1] [3] (heated probe not necessary)	(b) Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.

[1] *You may also use methods 3A and 10 as options to ASTM-D6522-00 (2005).*

[2] *You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.*

[3] *Incorporated by reference, see § 63.14.*

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		iii. Measure the CO at the inlet and the outlet of the control device; and	(2) ASTM D6522-00 (Reapproved 2005) [1] [2] [3] (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.
		iv. Measure moisture content at the inlet and outlet of the control device as needed to determine CO and O_2 concentrations on a dry basis	(3) Method 4 of 40 CFR part 60, appendix A-3, or method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 [1] [3]	(d) Measurements to determine moisture content must be made at the same time and location as the measurements for CO concentration.
2. 4SRB stationary RICE	a. Reduce formaldehyde or THC 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, THC, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of section 11.1.1 of

[1] *You may also use methods 3A and 10 as options to ASTM-D6522-00 (2005).*

[2] *You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.*

[3] *Incorporated by reference, see § 63.14.*

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
				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 D6522-00 (Reapproved 2005) [1] [3] (heated probe not necessary)	(b) 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 as needed to determine formaldehyde or THC and O_2 concentrations on a dry basis; and	(2) Method 4 of 40 CFR part 60, appendix A-3, or method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 [1] [3]	(c) 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	(3) Method 320 or 323 of 40 CFR	(d) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the

[1] *You may also use methods 3A and 10 as options to ASTM-D6522-00 (2005).*

[2] *You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.*

[3] *Incorporated by reference, see § 63.14.*

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		with the formaldehyde percent reduction requirement, measure formaldehyde at the inlet and the outlet of the control device	part 63, appendix A; or ASTM D6348-03,[1] [3] 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	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	(4) (1) Method 25A, reported as propane, of 40 CFR part 60, appendix A-7	(e) 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	i. Select the sampling port location and the number/ location of traverse points		(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

[1] *You may also use methods 3A and 10 as options to ASTM-D6522-00 (2005).*

[2] *You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.*

[3] *Incorporated by reference, see § 63.14.*

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
	RICE exhaust	at the exhaust of the stationary RICE; and		points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of section 11.1.1 of method 1 of 40 CFR part 60, appendix A, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to section 8.1.2 of method 7E of 40 CFR part 60, appendix A. If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_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 D6522-00 (Reapproved 2005) [1] [3] (heated probe not necessary)	(b) 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 as	(2) Method 4 of 40 CFR part 60, appendix A-3, or method 320 of 40 CFR part 63,	(c) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.

[1] *You may also use methods 3A and 10 as options to ASTM-D6522-00 (2005).*

[2] *You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.*

[3] *Incorporated by reference, see § 63.14.*

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		needed to determine formaldehyde or CO and O_2 concentrations on a dry basis; and	appendix A, or ASTM D6348-03 [1] [3]	
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(3) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03,[1] [3] 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	(d) 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	(4) Method 10 of 40 CFR part 60, appendix A-4, ASTM D6522-00 (2005),[1] [3] method 320	(e) 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.

[1] *You may also use methods 3A and 10 as options to ASTM-D6522-00 (2005).*

[2] *You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.*

[3] *Incorporated by reference, see § 63.14.*

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
			of 40 CFR part 63, appendix A, or ASTM D6348-03 [1] [3]	

[1] *You may also use methods 3A and 10 as options to ASTM-D6522-00 (2005).*

[2] *You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.*

[3] *Incorporated by reference, see § 63.14.*

[88 FR 18413, Mar. 29, 2023]

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 reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	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 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.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
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

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at both the inlet and outlet of the oxidation catalyst according to the requirements in § 63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average reduction of CO calculated using § 63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at the outlet of the oxidation catalyst according to the requirements in § 63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average concentration of CO calculated using § 63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde	i. The average reduction of emissions of formaldehyde

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
	emissions and using NSCR	determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB	a. Limit the concentration of formaldehyde in the stationary	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

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
stationary RICE >500 HP located at a major source of HAP	RICE exhaust and using oxidation catalyst or NSCR	ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
11. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.
13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and	a. Install an oxidation catalyst	i. You have conducted an initial compliance demonstration as specified in § 63.6630(e) to show

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
that are operated more than 24 hours per calendar year		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]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in § 63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved [a]; and ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and iii. Reducing these data to 4-hour 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

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		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	a. Reduce CO emissions or	i. Collecting the monitoring data

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
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	limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	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.

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
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

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		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	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
	RICE exhaust and using oxidation catalyst or NSCR	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	a. Limit the concentration	i. Conducting semiannual

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	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	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
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		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

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		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,	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
	and not using oxidation catalyst	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	i. Conducting performance tests every 8,760 hours or 5 years,

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
	of CO in the stationary RICE exhaust, and using an oxidation catalyst	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

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		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

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		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;

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		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

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		ii. Collecting the catalyst inlet temperature data according to § 63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.

[a] *After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.*

[78 FR 6715, Jan. 30, 2013]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in § 63.6650, you must comply with the following requirements for reports:

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	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) and (i) 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) and (i) for engines that are limited use stationary RICE subject to numerical emission limitations.
		b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in § 63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), the information in § 63.6650(e); or	i. Semiannually according to the requirements in § 63.6650(b) and (i).
		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) and (i).

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
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) and (i).
4. Emergency stationary RICE 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) and (i).

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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	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 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	Yes	

General provisions citation	Subject of citation	Applies to subpart	Explanation
	operation and maintenance		
§ 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	Yes	Except that § 63.9(c) only applies as

General provisions citation	Subject of citation	Applies to subpart	Explanation
	extension		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	
§ 63.9(k)	Electronic reporting procedures	Yes	Only as specified in §§ 63.9(j), 63.6620, 63.6625, 63.6645, and 63.6650.
§ 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	
§	Record when under	Yes	

General provisions citation	Subject of citation	Applies to subpart	Explanation
63.10(b)(2)(xii)	waiver		
§ 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	No	Excess emissions and exceedance reporting is specified in § 63.6650.
§ 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	

[89 FR 70522, Aug. 30, 2024]

Appendix A to Subpart ZZZZ of Part 63—Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

1.0 Scope and Application. What is this Protocol?

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O_2) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

1.1 Analytes. What does this protocol determine?

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O_2).

Analyte	CAS No.	Sensitivity
Carbon monoxide (CO)	630-08-0	Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.
Oxygen (O_2)	*7782-44-7*	

1.2 Applicability. When is this protocol acceptable?

This protocol is applicable to 40 CFR part 63, subpart ZZZZ. Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

1.3 Data Quality Objectives. How good must my collected data be?

Refer to Section 13 to verify and document acceptable analyzer performance.

1.4 Range. What is the targeted analytical range for this protocol?

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and O_2, or no more than twice the permitted CO level.

1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

2.0 Summary of Protocol

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O_2 gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

3.0 Definitions

3.1 ***Measurement System.*** The total equipment required for the measurement of CO and O_2 concentrations. The measurement system consists of the following major subsystems:

3.1.1 ***Data Recorder.*** A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

3.1.2 ***Electrochemical (EC) Cell.*** A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

3.1.3 ***Interference Gas Scrubber.*** A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

3.1.4 ***Moisture Removal System.*** Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

3.1.5 ***Sample Interface.*** The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

3.2 ***Nominal Range.*** The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

3.3 ***Calibration Gas.*** A vendor certified concentration of a specific analyte in an appropriate balance gas.

3.4 ***Zero Calibration Error.*** The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

3.5 ***Up-Scale Calibration Error.*** The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

3.6 ***Interference Check.*** A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

3.7 ***Repeatability Check.*** A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

3.8 ***Sample Flow Rate.*** The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

3.9 ***Sampling Run.*** A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O_2 and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

3.10 ***Sampling Day.*** A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

3.11 ***Pre-Sampling Calibration/Post-Sampling Calibration Check.*** The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.

3.12 ***Performance-Established Configuration.*** The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

4.0 Interferences.

When present in sufficient concentrations, NO and NO_2 are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

5.0 Safety. [Reserved]

6.0 Equipment and Supplies.

6.1 What equipment do I need for the measurement system?

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

6.2 Measurement System Components.

6.2.1 ***Sample Probe.*** A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

6.2.2 ***Sample Line.*** Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

6.2.3 ***Calibration Assembly (optional).*** A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

6.2.4 ***Particulate Filter (optional).*** Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

6.2.5 ***Sample Pump.*** A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.8 ***Sample Flow Rate Monitoring.*** An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

6.2.9 ***Sample Gas Manifold (optional).*** A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.10 ***EC cell.*** A device containing one or more EC cells to determine the CO and O_2 concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

6.2.11 ***Data Recorder.*** A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O_2; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

6.2.12 ***Interference Gas Filter or Scrubber.*** A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 Reagents and Standards. What calibration gases are needed?

7.1 ***Calibration Gases.*** CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and O_2. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ±5 percent of the label value. Dry ambient air (20.9 percent O_2) is acceptable for calibration of the O_2 cell. If needed, any lower percentage O_2 calibration gas must be a mixture of O_2 in nitrogen.

7.1.1 ***Up-Scale CO Calibration Gas Concentration.*** Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

7.1.2 ***Up-Scale O_2 Calibration Gas Concentration.***

Select an O_2 gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O_2. When the average exhaust gas O_2 readings are above 6 percent, you may use dry ambient air (20.9 percent O_2) for the up-scale O_2 calibration gas.

7.1.3 ***Zero Gas.*** Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO_2).

8.0 Sample Collection and Analysis

8.1 ***Selection of Sampling Sites.***

8.1.1 ***Control Device Inlet.*** Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.1.2 ***Exhaust Gas Outlet.*** Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.2 ***Stack Gas Collection and Analysis.*** Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the “sample conditioning phase” once per minute until constant readings are obtained. Then begin the “measurement data phase” and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the

"refresh phase" by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the "measurement data phase" readings to calculate the average stack gas CO and O_2 concentrations.

8.3 ***EC Cell Rate.*** Maintain the EC cell sample flow rate so that it does not vary by more than ±10 percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check. Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than ±3 percent, as instructed by the EC cell manufacturer.

9.0 Quality Control (Reserved)

10.0 Calibration and Standardization

10.1 ***Pre-Sampling Calibration.*** Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

10.1.1 ***Zero Calibration.*** For both the O_2 and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

10.1.2 ***Zero Calibration Tolerance.*** For each zero gas introduction, the zero level output must be less than or equal to ±3 percent of the up-scale gas value or ±1 ppm, whichever is less restrictive, for the CO channel and less than or equal to ±0.3 percent O_2 for the O_2 channel.

10.1.3 ***Up-Scale Calibration.*** Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this "sample conditioning phase" once per minute until readings are constant for at least two minutes. Then begin the "measurement data phase" and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

10.1.4 ***Up-Scale Calibration Error.*** The mean of the difference of the "measurement data phase" readings from the reported standard gas value must be less than or equal to ±5 percent or ±1 ppm for CO or ±0.5 percent O_2, whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single "measurement data phase" reading must be less than or equal to ±2 percent or ±1 ppm for CO or ±0.5 percent O_2, whichever is less restrictive, respectively.

10.2 ***Post-Sampling Calibration Check.*** Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

12.0 Calculations and Data Analysis

Determine the CO and O_2 concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the “measurement data phase”.

13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

13.1 ***Measurement Data Phase Performance Check.*** Calculate the mean of the readings from the “measurement data phase”. The maximum allowable deviation from the mean for each of the individual readings is ±2 percent, or ±1 ppm, whichever is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to Section 10.1.4. The EC cell flow rate must conform to the specification in Section 8.3.

Example: A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than ±2 percent *or* ±1 ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed).

13.2 ***Interference Check.*** Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and NO_2 gas standards that are generally recognized as representative of diesel-fueled engine NO and NO_2 emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

13.2.1 ***Interference Response.*** The combined NO and NO_2 interference response should be less than or equal to ±5 percent of the up-scale CO calibration gas concentration.

13.3 ***Repeatability Check.*** Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

13.3.1 ***Repeatability Check Procedure.*** Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow Section 10.1.3. Use Figure 1 to record all data. Repeat the run three times for a total of four complete runs. During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

13.3.2 ***Repeatability Check Calculations.*** Determine the highest and lowest average "measurement data phase" CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than ±3 percent or ±1 ppm of the up-scale gas value, whichever is less restrictive.

14.0 Pollution Prevention (Reserved)

15.0 Waste Management (Reserved)

16.0 Alternative Procedures (Reserved)

17.0 References

(1) ***"Development of an Electrochemical Cell Emission Analyzer Test Protocol"*** , Topical Report, Phil Juneau, Emission Monitoring, Inc., July 1997.

(2) ***"Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers, and Process Heaters Using Portable Analyzers"*** , EMC Conditional Test Protocol 30 (CTM-30), Gas Research Institute Protocol GRI-96/0008, Revision 7, October 13, 1997.

(3) ***"ICAC Test Protocol for Periodic Monitoring"*** , EMC Conditional Test Protocol 34 (CTM-034), The Institute of Clean Air Companies, September 8, 1999.

(4) ***"Code of Federal Regulations"*** , Protection of Environment, 40 CFR, Part 60, Appendix A, Methods 1-4; 10.

TABLE 1: APPENDIX A—SAMPLING RUN DATA.

Facility_____ Engine I.D._____ Date_____

Run Type: (X)	(_) Pre-Sample Calibration	(_) Stack Gas Sample	(_) Post-Sample Cal. Check	(_) Repeatability Check

Run #	1	1	2	2	3	3	4	4	Time	Scrub. OK	Flow- Rate
Gas	O_2	CO	O_2	CO	O_2	CO	O_2	CO			
Sample Cond. Phase											
"											
"											
"											
"											
Measurement Data Phase											
"											
"											
"											
"											
"											
"											
"											
"											
"											
"											
Mean											
Refresh Phase											
"											
"											
"											
"											

[78 FR 6721, Jan. 30, 2013]

Appendix D:

40 C.F.R. Part 63, Subpart CCCCCC

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 63 —National Emission Standards for Hazardous Air Pollutants for Source Categories

Authority: 42 U.S.C. 7401 *et seq.*

Source: 57 FR 61992, Dec. 29, 1992, unless otherwise noted.

Subpart CCCCCC National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

What This Subpart Covers

§ 63.11110 What is the purpose of this subpart?

§ 63.11111 Am I subject to the requirements in this subpart?

§ 63.11112 What parts of my affected source does this subpart cover?

§ 63.11113 When do I have to comply with this subpart?

Emission Limitations and Management Practices

§ 63.11115 What are my general duties to minimize emissions?

§ 63.11116 Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.

§ 63.11117 Requirements for facilities with monthly throughput of 10,000 gallons of gasoline or more.

§ 63.11118 Requirements for facilities with monthly throughput of 100,000 gallons of gasoline or more.

Testing and Monitoring Requirements

§ 63.11120 What testing and monitoring requirements must I meet?

Notifications, Records, and Reports

§ 63.11124 What notifications must I submit and when?

§ 63.11125 What are my recordkeeping requirements?

§ 63.11126 What are my reporting requirements?

Other Requirements and Information

§ 63.11130 What parts of the General Provisions apply to me?

§ 63.11131 Who implements and enforces this subpart?

§ 63.11132 What definitions apply to this subpart?

Table 1 to Subpart CCCCCC of Part 63

Applicability Criteria and Management Practices for Gasoline Dispensing Facilities With Monthly Throughput of 100,000 Gallons of Gasoline or More [1]

Table 2 to Subpart CCCCCC of Part 63

Applicability Criteria and Management Practices for Gasoline Cargo Tanks Unloading at Gasoline Dispensing Facilities With Monthly Throughput of 100,000 Gallons of Gasoline or More

Table 3 to Subpart CCCCCC of Part 63
Applicability of General Provisions

Subpart CCCCCC—National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

Source: 73 FR 1945, Jan. 10, 2008, unless otherwise noted.

WHAT THIS SUBPART COVERS

§ 63.11110 What is the purpose of this subpart?

This subpart establishes national emission limitations and management practices for hazardous air pollutants (HAP) emitted from the loading of gasoline storage tanks at gasoline dispensing facilities (GDF). This subpart also establishes requirements to demonstrate compliance with the emission limitations and management practices.

§ 63.11111 Am I subject to the requirements in this subpart?

(a) The affected source to which this subpart applies is each GDF that is located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank.

(b) If your GDF has a monthly throughput of less than 10,000 gallons of gasoline, you must comply with the requirements in § 63.11116.

(c) If your GDF has a monthly throughput of 10,000 gallons of gasoline or more, you must comply with the requirements in § 63.11117.

(d) If your GDF has a monthly throughput of 100,000 gallons of gasoline or more, you must comply with the requirements in § 63.11118.

(e) An affected source shall, upon request by the Administrator, demonstrate that their monthly throughput is less than the 10,000-gallon or the 100,000-gallon threshold level, as applicable. For new or reconstructed affected sources, as specified in § 63.11112(b) and (c), recordkeeping to document monthly throughput must begin upon startup of the affected source. For existing sources, as specified in § 63.11112(d), recordkeeping to document monthly throughput must begin on January 10, 2008. For existing sources that are subject to this subpart only because they load gasoline into fuel tanks other than those in motor vehicles, as defined in § 63.11132, recordkeeping to document monthly throughput must begin on January 24, 2011. Records required under this paragraph shall be kept for a period of 5 years.

(f) If you are an owner or operator of affected sources, as defined in paragraph (a) of this section, you are not required to obtain a permit under 40 CFR part 70 or 40 CFR part 71 as a result of being subject to this subpart. However, you must still apply for and obtain a permit under 40 CFR part 70 or 40 CFR part 71 if you meet one or more of the applicability criteria found in 40 CFR 70.3(a) and (b) or 40 CFR 71.3(a) and (b).

(g) The loading of aviation gasoline into storage tanks at airports, and the subsequent transfer of aviation gasoline within the airport, is not subject to this subpart.

(h) Monthly throughput is the total volume of gasoline loaded into, or dispensed from, all the gasoline storage tanks located at a single affected GDF. If an area source has two or more GDF at separate locations within the area source, each GDF is treated as a separate affected source.

(i) If your affected source's throughput ever exceeds an applicable throughput threshold, the affected source will remain subject to the requirements for sources above the threshold, even if the affected source throughput later falls below the applicable throughput threshold.

(j) The dispensing of gasoline from a fixed gasoline storage tank at a GDF into a portable gasoline tank for the on-site delivery and subsequent dispensing of the gasoline into the fuel tank of a motor vehicle or other gasoline-fueled engine or equipment used within the area source is only subject to § 63.11116 of this subpart.

(k) For any affected source subject to the provisions of this subpart and another Federal rule, you may elect to comply only with the more stringent provisions of the applicable subparts. You must consider all provisions of the rules, including monitoring, recordkeeping, and reporting. You must identify the affected source and provisions with which you will comply in your Notification of Compliance Status required under § 63.11124. You also must demonstrate in your Notification of Compliance Status that each provision with which you will comply is at least as stringent as the otherwise applicable requirements in this subpart. You are responsible for making accurate determinations concerning the more stringent provisions, and noncompliance with this rule is not excused if it is later determined that your determination was in error, and, as a result, you are violating this subpart. Compliance with this rule is your responsibility and the Notification of Compliance Status does not alter or affect that responsibility.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4181, Jan. 24, 2011]

§ 63.11112 What parts of my affected source does this subpart cover?

(a) The emission sources to which this subpart applies are gasoline storage tanks and associated equipment components in vapor or liquid gasoline service at new, reconstructed, or existing GDF that meet the criteria specified in § 63.11111. Pressure/Vacuum vents on gasoline storage tanks and the equipment necessary to unload product from cargo tanks into the storage tanks at GDF are covered emission sources. The equipment used for the refueling of motor vehicles is not covered by this subpart.

(b) An affected source is a new affected source if you commenced construction on the affected source after November 9, 2006, and you meet the applicability criteria in § 63.11111 at the time you commenced operation.

(c) An affected source is reconstructed if you meet the criteria for reconstruction as defined in § 63.2.

(d) An affected source is an existing affected source if it is not new or reconstructed.

§ 63.11113 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to paragraphs (a)(1) and (2) of this section, except as specified in paragraph (d) of this section.

(1) If you start up your affected source before January 10, 2008, you must comply with the standards in this subpart no later than January 10, 2008.

(2) If you start up your affected source after January 10, 2008, you must comply with the standards in this subpart upon startup of your affected source.

(b) If you have an existing affected source, you must comply with the standards in this subpart no later than January 10, 2011.

(c) If you have an existing affected source that becomes subject to the control requirements in this subpart because of an increase in the monthly throughput, as specified in § 63.11111(c) or § 63.11111(d), you must comply with the standards in this subpart no later than 3 years after the affected source becomes subject to the control requirements in this subpart.

(d) If you have a new or reconstructed affected source and you are complying with Table 1 to this subpart, you must comply according to paragraphs (d)(1) and (2) of this section.

(1) If you start up your affected source from November 9, 2006 to September 23, 2008, you must comply no later than September 23, 2008.

(2) If you start up your affected source after September 23, 2008, you must comply upon startup of your affected source.

(e) The initial compliance demonstration test required under § 63.11120(a)(1) and (2) must be conducted as specified in paragraphs (e)(1) and (2) of this section.

(1) If you have a new or reconstructed affected source, you must conduct the initial compliance test upon installation of the complete vapor balance system.

(2) If you have an existing affected source, you must conduct the initial compliance test as specified in paragraphs (e)(2)(i) or (e)(2)(ii) of this section.

(i) For vapor balance systems installed on or before December 15, 2009, you must test no later than 180 days after the applicable compliance date specified in paragraphs (b) or (c) of this section.

(ii) For vapor balance systems installed after December 15, 2009, you must test upon installation of the complete vapor balance system.

(f) If your GDF is subject to the control requirements in this subpart only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in § 63.11132, you must comply with the standards in this subpart as specified in paragraphs (f)(1) or (f)(2) of this section.

(1) If your GDF is an existing facility, you must comply by January 24, 2014.

(2) If your GDF is a new or reconstructed facility, you must comply by the dates specified in paragraphs (f)(2)(i) and (ii) of this section.

(i) If you start up your GDF after December 15, 2009, but before January 24, 2011, you must comply no later than January 24, 2011.

(ii) If you start up your GDF after January 24, 2011, you must comply upon startup of your GDF.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 35944, June 25, 2008; 76 FR 4181, Jan. 24, 2011]

EMISSION LIMITATIONS AND MANAGEMENT PRACTICES

§ 63.11115 What are my general duties to minimize emissions?

Each owner or operator of an affected source under this subpart must comply with the requirements of paragraphs (a) and (b) of this section.

(a) You must, at all times, 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. 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.

(b) You must keep applicable records and submit reports as specified in § 63.11125(d) and § 63.11126(b).

[76 FR 4182, Jan. 24, 2011]

§ 63.11116 Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.

(a) You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

(1) Minimize gasoline spills;

(2) Clean up spills as expeditiously as practicable;

(3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;

(4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

(b) You are not required to submit notifications or reports as specified in § 63.11125, § 63.11126, or subpart A of this part, but you must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

(c) You must comply with the requirements of this subpart by the applicable dates specified in § 63.11113.

(d) Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for compliance with paragraph (a)(3) of this section.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4182, Jan. 24, 2011]

§ 63.11117 Requirements for facilities with monthly throughput of 10,000 gallons of gasoline or more.

(a) You must comply with the requirements in section § 63.11116(a).

(b) Except as specified in paragraph (c) of this section, you must only load gasoline into storage tanks at your facility by utilizing submerged filling, as defined in § 63.11132, and as specified in paragraphs (b)(1), (b)(2), or (b)(3) of this section. The applicable distances in paragraphs (b)(1) and (2) shall be measured from the point in the opening of the submerged fill pipe that is the greatest distance from the bottom of the storage tank.

(1) Submerged fill pipes installed on or before November 9, 2006, must be no more than 12 inches from the bottom of the tank.

(2) Submerged fill pipes installed after November 9, 2006, must be no more than 6 inches from the bottom of the tank.

(3) Submerged fill pipes not meeting the specifications of paragraphs (b)(1) or (b)(2) of this section are allowed if the owner or operator can demonstrate that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation providing such demonstration must be made available for inspection by the Administrator's delegated representative during the course of a site visit.

(c) Gasoline storage tanks with a capacity of less than 250 gallons are not required to comply with the submerged fill requirements in paragraph (b) of this section, but must comply only with all of the requirements in § 63.11116.

(d) You must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

(e) You must submit the applicable notifications as required under § 63.11124(a).

(f) You must comply with the requirements of this subpart by the applicable dates contained in § 63.11113.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008; 76 FR 4182, Jan. 24, 2011]

§ 63.11118 Requirements for facilities with monthly throughput of 100,000 gallons of gasoline or more.

(a) You must comply with the requirements in §§ 63.11116(a) and 63.11117(b).

(b) Except as provided in paragraph (c) of this section, you must meet the requirements in either paragraph (b)(1) or paragraph (b)(2) of this section.

(1) Each management practice in Table 1 to this subpart that applies to your GDF.

(2) If, prior to January 10, 2008, you satisfy the requirements in both paragraphs (b)(2)(i) and (ii) of this section, you will be deemed in compliance with this subsection.

(i) You operate a vapor balance system at your GDF that meets the requirements of either paragraph (b)(2)(i)(A) or paragraph (b)(2)(i)(B) of this section.

(A) Achieves emissions reduction of at least 90 percent.

(B) Operates using management practices at least as stringent as those in Table 1 to this subpart.

(ii) Your gasoline dispensing facility is in compliance with an enforceable State, local, or tribal rule or permit that contains requirements of either paragraph (b)(2)(i)(A) or paragraph (b)(2)(i)(B) of this section.

(c) The emission sources listed in paragraphs (c)(1) through (3) of this section are not required to comply with the control requirements in paragraph (b) of this section, but must comply with the requirements in § 63.11117.

(1) Gasoline storage tanks with a capacity of less than 250 gallons that are constructed after January 10, 2008.

(2) Gasoline storage tanks with a capacity of less than 2,000 gallons that were constructed before January 10, 2008.

(3) Gasoline storage tanks equipped with floating roofs, or the equivalent.

(d) Cargo tanks unloading at GDF must comply with the management practices in Table 2 to this subpart.

(e) You must comply with the applicable testing requirements contained in § 63.11120.

(f) You must submit the applicable notifications as required under § 63.11124.

(g) You must keep records and submit reports as specified in §§ 63.11125 and 63.11126.

(h) You must comply with the requirements of this subpart by the applicable dates contained in § 63.11113.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008]

TESTING AND MONITORING REQUIREMENTS

§ 63.11120 What testing and monitoring requirements must I meet?

(a) Each owner or operator, at the time of installation, as specified in § 63.11113(e), of a vapor balance system required under § 63.11118(b)(1), and every 3 years thereafter, must comply with the requirements in paragraphs (a)(1) and (2) of this section.

(1) You must demonstrate compliance with the leak rate and cracking pressure requirements, specified in item 1(g) of Table 1 to this subpart, for pressure-vacuum vent valves installed on your gasoline storage tanks using the test methods identified in paragraph (a)(1)(i) or paragraph (a)(1)(ii) of this section.

(i) California Air Resources Board Vapor Recovery Test Procedure TP-201.1E,—Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, adopted October 8, 2003 (incorporated by reference, see § 63.14).

(ii) Use alternative test methods and procedures in accordance with the alternative test method requirements in § 63.7(f).

(2) You must demonstrate compliance with the static pressure performance requirement specified in item 1(h) of Table 1 to this subpart for your vapor balance system by conducting a static pressure test on your gasoline storage tanks using the test methods identified in paragraphs (a)(2)(i), (a)(2)(ii), or (a)(2)(iii) of this section.

(i) California Air Resources Board Vapor Recovery Test Procedure TP-201.3,—Determination of 2-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities, adopted April 12, 1996, and amended March 17, 1999 (incorporated by reference, see § 63.14).

(ii) Use alternative test methods and procedures in accordance with the alternative test method requirements in § 63.7(f).

(iii) Bay Area Air Quality Management District Source Test Procedure ST-30—Static Pressure Integrity Test—Underground Storage Tanks, adopted November 30, 1983, and amended December 21, 1994 (incorporated by reference, *see* § 63.14).

(b) Each owner or operator choosing, under the provisions of § 63.6(g), to use a vapor balance system other than that described in Table 1 to this subpart must demonstrate to the Administrator or delegated authority under paragraph § 63.11131(a) of this subpart, the equivalency of their vapor balance system to that described in Table 1 to this subpart using the procedures specified in paragraphs (b)(1) through (3) of this section.

(1) You must demonstrate initial compliance by conducting an initial performance test on the vapor balance system to demonstrate that the vapor balance system achieves 95 percent reduction using the California Air Resources Board Vapor Recovery Test Procedure TP-201.1,—Volumetric Efficiency for Phase I Vapor Recovery Systems, adopted April 12, 1996, and amended February 1, 2001, and October 8, 2003, (incorporated by reference, see § 63.14).

(2) You must, during the initial performance test required under paragraph (b)(1) of this section, determine and document alternative acceptable values for the leak rate and cracking pressure requirements specified in item 1(g) of Table 1 to this subpart and for the static pressure performance requirement in item 1(h) of Table 1 to this subpart.

(3) You must comply with the testing requirements specified in paragraph (a) of this section.

(c) Conduct of performance tests. Performance tests conducted for this subpart shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (*i.e.,* performance based on normal operating conditions) of the affected source. 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.

(d) Owners and operators of gasoline cargo tanks subject to the provisions of Table 2 to this subpart must conduct annual certification testing according to the vapor tightness testing requirements found in § 63.11092(f).

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4182, Jan. 24, 2011]

NOTIFICATIONS, RECORDS, AND REPORTS

§ 63.11124 What notifications must I submit and when?

(a) Each owner or operator subject to the control requirements in § 63.11117 must comply with paragraphs (a)(1) through (3) of this section.

(1) You must submit an Initial Notification that you are subject to this subpart by May 9, 2008, or no later than 120 days after the source becomes subject to this subpart, whichever is later, or at the time you become subject to the control requirements in § 63.11117, unless you meet the requirements in

paragraph (a)(3) of this section. If your affected source is subject to the control requirements in § 63.11117 only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in § 63.11132, you must submit the Initial Notification by May 24, 2011, or no later than 120 days after the source becomes subject to this subpart, whichever is later. The Initial Notification must contain the information specified in paragraphs (a)(1)(i) through (iii) of this section. The notification must be submitted to the applicable EPA Regional office and delegated state authority as specified in § 63.13.

(i) The name and address of the owner and the operator.

(ii) The address (i.e., physical location) of the GDF.

(iii) A statement that the notification is being submitted in response to this subpart and identifying the requirements in paragraphs (a) through (c) of § 63.11117 that apply to you.

(2) You must submit a Notification of Compliance Status to the applicable EPA Regional Office and the delegated State authority, as specified in § 63.13, within 60 days of the applicable compliance date specified in § 63.11113, unless you meet the requirements in paragraph (a)(3) of this section. The Notification of Compliance Status must be signed by a responsible official who must certify its accuracy, must indicate whether the source has complied with the requirements of this subpart, and must indicate whether the facilities' monthly throughput is calculated based on the volume of gasoline loaded into all storage tanks or on the volume of gasoline dispensed from all storage tanks. If your facility is in compliance with the requirements of this subpart at the time the Initial Notification required under paragraph (a)(1) of this section is due, the Notification of Compliance Status may be submitted in lieu of the Initial Notification provided it contains the information required under paragraph (a)(1) of this section.

(3) If, prior to January 10, 2008, you are operating in compliance with an enforceable State, local, or tribal rule or permit that requires submerged fill as specified in § 63.11117(b), you are not required to submit an Initial Notification or a Notification of Compliance Status under paragraph (a)(1) or paragraph (a)(2) of this section.

(b) Each owner or operator subject to the control requirements in § 63.11118 must comply with paragraphs (b)(1) through (5) of this section.

(1) You must submit an Initial Notification that you are subject to this subpart by May 9, 2008, or no later than 120 days after the source becomes subject to this subpart, whichever is later, or at the time you become subject to the control requirements in § 63.11118. If your affected source is subject to the control requirements in § 63.11118 only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in § 63.11132, you must submit the Initial Notification by May 24, 2011, or no later than 120 days after the source becomes subject to this subpart, whichever is later. The Initial Notification must contain the information specified in paragraphs (b)(1)(i) through (iii) of this section. The notification must be submitted to the applicable EPA Regional office and delegated state authority as specified in § 63.13.

(i) The name and address of the owner and the operator.

(ii) The address (i.e., physical location) of the GDF.

(iii) A statement that the notification is being submitted in response to this subpart and identifying the requirements in paragraphs (a) through (c) of § 63.11118 that apply to you.

(2) You must submit a Notification of Compliance Status to the applicable EPA Regional Office and the delegated State authority, as specified in § 63.13, in accordance with the schedule specified in § 63.9(h). The Notification of Compliance Status must be signed by a responsible official who must certify its accuracy, must indicate whether the source has complied with the requirements of this subpart, and must indicate whether the facility's throughput is determined based on the volume of gasoline loaded into all storage tanks or on the volume of gasoline dispensed from all storage tanks. If your facility is in compliance with the requirements of this subpart at the time the Initial Notification required under paragraph (b)(1) of this section is due, the Notification of Compliance Status may be submitted in lieu of the Initial Notification provided it contains the information required under paragraph (b)(1) of this section.

(3) If, prior to January 10, 2008, you satisfy the requirements in both paragraphs (b)(3)(i) and (ii) of this section, you are not required to submit an Initial Notification or a Notification of Compliance Status under paragraph (b)(1) or paragraph (b)(2) of this subsection.

(i) You operate a vapor balance system at your gasoline dispensing facility that meets the requirements of either paragraphs (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(A) Achieves emissions reduction of at least 90 percent.

(B) Operates using management practices at least as stringent as those in Table 1 to this subpart.

(ii) Your gasoline dispensing facility is in compliance with an enforceable State, local, or tribal rule or permit that contains requirements of either paragraphs (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(4) You must submit a Notification of Performance Test, as specified in § 63.9(e), prior to initiating testing required by § 63.11120(a) and (b).

(5) You must submit additional notifications specified in § 63.9, as applicable.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008; 76 FR 4182, Jan. 24, 2011; 85 FR 73919, Nov. 19, 2020]

§ 63.11125 What are my recordkeeping requirements?

(a) Each owner or operator subject to the management practices in § 63.11118 must keep records of all tests performed under § 63.11120(a) and (b).

(b) Records required under paragraph (a) of this section shall be kept for a period of 5 years and shall be made available for inspection by the Administrator's delegated representatives during the course of a site visit.

(c) Each owner or operator of a gasoline cargo tank subject to the management practices in Table 2 to this subpart must keep records documenting vapor tightness testing for a period of 5 years. Documentation must include each of the items specified in § 63.11094(b)(2)(i) through (viii). Records of vapor tightness testing must be retained as specified in either paragraph (c)(1) or paragraph (c)(2) of this section.

(1) The owner or operator must keep all vapor tightness testing records with the cargo tank.

(2) As an alternative to keeping all records with the cargo tank, the owner or operator may comply with the requirements of paragraphs (c)(2)(i) and (ii) of this section.

(i) The owner or operator may keep records of only the most recent vapor tightness test with the cargo tank, and keep records for the previous 4 years at their office or another central location.

(ii) Vapor tightness testing records that are kept at a location other than with the cargo tank must be instantly available (*e.g.,* via e-mail or facsimile) to the Administrator's delegated representative during the course of a site visit or within a mutually agreeable time frame. Such records must be an exact duplicate image of the original paper copy record with certifying signatures.

(d) Each owner or operator of an affected source under this subpart shall keep records as specified in paragraphs (d)(1) and (2) of this section.

(1) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(2) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.11115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4183, Jan. 24, 2011]

§ 63.11126 What are my reporting requirements?

(a) Each owner or operator subject to the management practices in § 63.11118 shall report to the Administrator the results of all volumetric efficiency tests required under § 63.11120(b). Reports submitted under this paragraph must be submitted within 180 days of the completion of the performance testing.

(b) Each owner or operator of an affected source under this subpart shall report, by March 15 of each year, the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year 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 § 63.11115(a), including actions taken to correct a malfunction. No report is necessary for a calendar year in which no malfunctions occurred.

[76 FR 4183, Jan. 24, 2011]

Other Requirements and Information

§ 63.11130 What parts of the General Provisions apply to me?

Table 3 to this subpart shows which parts of the General Provisions apply to you.

§ 63.11131 Who implements and enforces this subpart?

(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 implementation and enforcement of 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 (3) of this section.

(1) Approval of alternatives to the requirements in §§ 63.11116 through 63.11118 and 63.11120.

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

§ 63.11132 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act (CAA), or in subparts A and BBBBBB of this part. For purposes of this subpart, definitions in this section supersede definitions in other parts or subparts.

Dual-point vapor balance system means a type of vapor balance system in which the storage tank is equipped with an entry port for a gasoline fill pipe and a separate exit port for a vapor connection.

Gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater, which is used as a fuel for internal combustion engines.

Gasoline cargo tank means a delivery tank truck or railcar which is loading or unloading gasoline, or which has loaded or unloaded gasoline on the immediately previous load.

Gasoline dispensing facility (GDF) means any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine, including a nonroad vehicle or nonroad engine used solely for competition. These facilities include, but are not limited to, facilities that dispense gasoline into on- and off-road, street, or highway motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline-fueled engines and equipment.

Monthly throughput means the total volume of gasoline that is loaded into, or dispensed from, all gasoline storage tanks at each GDF during a month. Monthly throughput is calculated by summing the volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the current day, plus the total volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the previous 364 days, and then dividing that sum by 12.

Motor vehicle means any self-propelled vehicle designed for transporting persons or property on a street or highway.

Nonroad engine means an internal combustion engine (including the fuel system) that is not used in a motor vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under section 7411 of this title or section 7521 of this title.

Nonroad vehicle means a vehicle that is powered by a nonroad engine, and that is not a motor vehicle or a vehicle used solely for competition.

Submerged filling means, for the purposes of this subpart, the filling of a gasoline storage tank through a submerged fill pipe whose discharge is no more than the applicable distance specified in § 63.11117(b) from the bottom of the tank. Bottom filling of gasoline storage tanks is included in this definition.

Vapor balance system means a combination of pipes and hoses that create a closed system between the vapor spaces of an unloading gasoline cargo tank and a receiving storage tank such that vapors displaced from the storage tank are transferred to the gasoline cargo tank being unloaded.

Vapor-tight means equipment that allows no loss of vapors. Compliance with vapor-tight requirements can be determined by checking to ensure that the concentration at a potential leak source is not equal to or greater than 100 percent of the Lower Explosive Limit when measured with a combustible gas detector, calibrated with propane, at a distance of 1 inch from the source.

Vapor-tight gasoline cargo tank means a gasoline cargo tank which has demonstrated within the 12 preceding months that it meets the annual certification test requirements in § 63.11092(f) of this part.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4183, Jan. 24, 2011]

Table 1 to Subpart CCCCCC of Part 63—Applicability Criteria and Management Practices for Gasoline Dispensing Facilities With Monthly Throughput of 100,000 Gallons of Gasoline or More[1]

If you own or operate	Then you must
1. A new, reconstructed, or existing GDF subject to § 63.11118	Install and operate a vapor balance system on your gasoline storage tanks that meets the design criteria in paragraphs (a) through (h). (a) All vapor connections and lines on the storage tank shall be equipped with closures that seal upon disconnect. (b) The vapor line from the gasoline storage tank to the gasoline cargo tank shall be vapor-tight, as defined in § 63.11132. (c) The vapor balance system shall be designed such that the pressure in the tank truck does not exceed 18 inches water pressure or 5.9 inches water vacuum during product transfer. (d) The vapor recovery and product adaptors, and the method of connection with the delivery elbow, shall be designed so as to prevent the over-tightening or loosening of fittings during normal delivery operations. (e) If a gauge well separate from the fill tube is used, it shall be provided with a submerged drop tube that extends the same distance from the bottom of the storage tank as specified in § 63.11117(b).

[1] *The management practices specified in this Table are not applicable if you are complying with the requirements in § 63.11118(b)(2), except that if you are complying with the requirements in § 63.11118(b)(2)(i)(B), you must operate using management practices at least as stringent as those listed in this Table.*

If you own or operate	Then you must
	(f) Liquid fill connections for all systems shall be equipped with vapor-tight caps. (g) Pressure/vacuum (PV) vent valves shall be installed on the storage tank vent pipes. The pressure specifications for PV vent valves shall be: a positive pressure setting of 2.5 to 6.0 inches of water and a negative pressure setting of 6.0 to 10.0 inches of water. The total leak rate of all PV vent valves at an affected facility, including connections, shall not exceed 0.17 cubic foot per hour at a pressure of 2.0 inches of water and 0.63 cubic foot per hour at a vacuum of 4 inches of water. (h) The vapor balance system shall be capable of meeting the static pressure performance requirement of the following equation: $Pf = 2e^{-500.887/v}$ Where: Pf = Minimum allowable final pressure, inches of water. v = Total ullage affected by the test, gallons. e = Dimensionless constant equal to approximately 2.718. 2 = The initial pressure, inches water.
2. A new or reconstructed GDF, or any storage tank(s) constructed after November 9, 2006, at an existing affected facility subject to § 63.11118	Equip your gasoline storage tanks with a dual-point vapor balance system, as defined in § 63.11132, and comply with the requirements of item 1 in this Table.

[1] *The management practices specified in this Table are not applicable if you are complying with the requirements in § 63.11118(b)(2), except that if you are complying with the requirements in § 63.11118(b)(2)(i)(B), you must operate using management practices at least as stringent as those listed in this Table.*

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 35944, June 25, 2008; 76 FR 4184, Jan. 24, 2011]

Table 2 to Subpart CCCCCC of Part 63—Applicability Criteria and Management Practices for Gasoline Cargo Tanks Unloading at Gasoline Dispensing Facilities With Monthly Throughput of 100,000 Gallons of Gasoline or More

If you own or operate	Then you must
A gasoline cargo tank	Not unload gasoline into a storage tank at a GDF subject to the control requirements in this subpart unless the following conditions are met: (i) All hoses in the vapor balance system are properly connected, (ii) The adapters or couplers that attach to the vapor line on the storage tank have closures that seal upon disconnect, (iii) All vapor return hoses, couplers, and adapters used in the gasoline delivery are vapor-tight, (iv) All tank truck vapor return equipment is compatible in size and forms a vapor-tight connection with the vapor balance equipment on the GDF storage tank, and (v) All hatches on the tank truck are closed and securely fastened. (vi) The filling of storage tanks at GDF shall be limited to unloading from vapor-tight gasoline cargo tanks. Documentation that the cargo tank has met the specifications of EPA Method 27 shall be carried with the cargo tank, as specified in § 63.11125(c).

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4184, Jan. 24, 2011]

Table 3 to Subpart CCCCCC of Part 63—Applicability of General Provisions

Citation	Subject	Brief description	Applies to subpart CCCCCC
§ 63.1	Applicability	Initial applicability determination; applicability after standard established; permit requirements; extensions, notifications	Yes, specific requirements given in § 63.11111.
§ 63.1(c)(2)	Title V Permit	Requirements for obtaining a title V permit from the applicable permitting authority	Yes, § 63.11111(f) of subpart CCCCCC exempts identified area

Citation	Subject	Brief description	Applies to subpart CCCCCC
			sources from the obligation to obtain title V operating permits.
§ 63.2	Definitions	Definitions for part 63 standards	Yes, additional definitions in § 63.11132.
§ 63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§ 63.4	Prohibited Activities and Circumvention	Prohibited activities; Circumvention, severability	Yes.
§ 63.5	Construction/ Reconstruction	Applicability; applications; approvals	Yes, except that these notifications are not required for facilities subject to § 63.11116
§ 63.6(a)	Compliance with Standards/Operation & Maintenance—Applicability	General Provisions apply unless compliance extension; General Provisions apply to area sources that become major	Yes.
§ 63.6(b)(1)-(4)	Compliance Dates for New and Reconstructed Sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for CAA section 112(f)	Yes.
§ 63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal	Yes.
§ 63.6(b)(6)	[Reserved]		
§ 63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source	No.
§ 63.6(c)(1)-(2)	Compliance Dates for	Comply according to date in this	No, §

Citation	Subject	Brief description	Applies to subpart CCCCCC
	Existing Sources	subpart, which must be no later than 3 years after effective date; for CAA section 112(f) standards, comply within 90 days of effective date unless compliance extension	63.11113 specifies the compliance dates.
§ 63.6(c)(3)-(4)	[Reserved]		
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major	Area sources That become major must comply with major source standards by date indicated in this subpart or by equivalent time period (e.g., 3 years)	No.
§ 63.6(d)	[Reserved]		
63.6(e)(1)(i)	General duty to minimize emissions	Operate to minimize emissions at all times; information Administrator will use to determine if operation and maintenance requirements were met.	No. *See* § 63.11115 for general duty requirement.
63.6(e)(1)(ii)	Requirement to correct malfunctions ASAP	Owner or operator must correct malfunctions as soon as possible.	No.
§ 63.6(e)(2)	[Reserved]		
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction (SSM) Plan	Requirement for SSM plan; content of SSM plan; actions during SSM	No.
§ 63.6(f)(1)	Compliance Except During SSM	You must comply with emission standards at all times except during SSM	No.
§ 63.6(f)(2)-(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection	Yes.
§ 63.6(g)(1)-(3)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§ 63.6(h)(1)	Compliance with Opacity/ Visible Emission (VE) Standards	You must comply with opacity/VE standards at all times except during SSM	No.
§ 63.6(h)(2)(i)	Determining Compliance with Opacity/VE Standards	If standard does not State test method, use EPA Method 9 for opacity in appendix A of part 60 of this chapter and EPA Method 22 for VE in appendix A of part 60 of this chapter	No.
§ 63.6(h)(2)(ii)	[Reserved]		
§ 63.6(h)(2)(iii)	Using Previous Tests To	Criteria for when previous opacity/	No.

Citation	Subject	Brief description	Applies to subpart CCCCCC
	Demonstrate Compliance With Opacity/VE Standards	VE testing can be used to show compliance with this subpart	
§ 63.6(h)(3)	[Reserved]		
§ 63.6(h)(4)	Notification of Opacity/VE Observation Date	Must notify Administrator of anticipated date of observation	No.
§ 63.6(h)(5)(i), (iii)-(v)	Conducting Opacity/VE Observations	Dates and schedule for conducting opacity/VE observations	No.
§ 63.6(h)(5)(ii)	Opacity Test Duration and Averaging Times	Must have at least 3 hours of observation with 30 6-minute averages	No.
§ 63.6(h)(6)	Records of Conditions During Opacity/VE Observations	Must keep records available and allow Administrator to inspect	No.
§ 63.6(h)(7)(i)	Report Continuous Opacity Monitoring System (COMS) Monitoring Data From Performance Test	Must submit COMS data with other performance test data	No.
§ 63.6(h)(7)(ii)	Using COMS Instead of EPA Method 9	Can submit COMS data instead of EPA Method 9 results even if rule requires EPA Method 9 in appendix A of part 60 of this chapter, but must notify Administrator before performance test	No.
§ 63.6(h)(7)(iii)	Averaging Time for COMS During Performance Test	To determine compliance, must reduce COMS data to 6-minute averages	No.
§ 63.6(h)(7)(iv)	COMS Requirements	Owner/operator must demonstrate that COMS performance evaluations are conducted according to § 63.8(e); COMS are properly maintained and operated according to § 63.8(c) and data quality as § 63.8(d)	No.
§ 63.6(h)(7)(v)	Determining Compliance with Opacity/VE Standards	COMS is probable but not conclusive evidence of compliance with opacity standard, even if EPA Method 9 observation shows otherwise. Requirements for COMS to be probable evidence-proper maintenance, meeting Performance	No.

Citation	Subject	Brief description	Applies to subpart CCCCCC
		Specification 1 in appendix B of part 60 of this chapter, and data have not been altered	
§ 63.6(h)(8)	Determining Compliance with Opacity/VE Standards	Administrator will use all COMS, EPA Method 9 (in appendix A of part 60 of this chapter), and EPA Method 22 (in appendix A of part 60 of this chapter) results, as well as information about operation and maintenance to determine compliance	No.
§ 63.6(h)(9)	Adjusted Opacity Standard	Procedures for Administrator to adjust an opacity standard	No.
§ 63.6(i)(1)-(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes.
§ 63.6(j)	Presidential Compliance Exemption	President may exempt any source from requirement to comply with this subpart	Yes.
§ 63.7(a)(2)	Performance Test Dates	Dates for conducting initial performance testing; must conduct 180 days after compliance date	Yes.
§ 63.7(a)(3)	CAA Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time	Yes.
§ 63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes.
§ 63.7(b)(2)	Notification of Re-scheduling	If have to reschedule performance test, must notify Administrator of rescheduled date as soon as practicable and without delay	Yes.
§ 63.7(c)	Quality Assurance (QA)/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing	Yes.
§ 63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
63.7(e)(1)	Conditions for Conducting Performance Tests	Performance test must be conducted under representative	No, § 63.11120(c)

Citation	Subject	Brief description	Applies to subpart CCCCCC
		conditions	specifies conditions for conducting performance tests.
§ 63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to this subpart and EPA test methods unless Administrator approves alternative	Yes.
§ 63.7(e)(3)	Test Run Duration	Must have three test runs of at least 1 hour each; compliance is based on arithmetic mean of three runs; conditions when data from an additional test run can be used	Yes.
§ 63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an intermediate or major change, or alternative to a test method	Yes.
§ 63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the Notification of Compliance Status; keep data for 5 years	Yes.
§ 63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes.
§ 63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes.
§ 63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of 40 CFR part 60 apply	Yes.
§ 63.8(a)(3)	[Reserved]		
§ 63.8(a)(4)	Monitoring of Flares	Monitoring requirements for flares in § 63.11 apply	Yes.
§ 63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes.
§ 63.8(b)(2)-(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; must install on each affected source or after combined with another affected source before it is released to the	No.

Citation	Subject	Brief description	Applies to subpart CCCCCC
		atmosphere provided the monitoring is sufficient to demonstrate compliance with the standard; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup	
§ 63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with good air pollution control practices	No.
§ 63.8(c)(1)(i)-(iii)	Operation and Maintenance of Continuous Monitoring Systems (CMS)	Must maintain and operate each CMS as specified in § 63.6(e)(1); must keep parts for routine repairs readily available; must develop a written SSM plan for CMS, as specified in § 63.6(e)(3)	No.
§ 63.8(c)(2)-(8)	CMS Requirements	Must install to get representative emission or parameter measurements; must verify operational status before or at performance test	No.
§ 63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc.; must keep quality control plan on record for 5 years; keep old versions for 5 years after revisions	No.
§ 63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports	No.
§ 63.8(f)(1)-(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	No.
§ 63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for continuous emissions monitoring system (CEMS)	No.
§ 63.8(g)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that cannot be used in average	No.
§ 63.9(a)	Notification Requirements	Applicability and State delegation	Yes.

Citation	Subject	Brief description	Applies to subpart CCCCCC
§ 63.9(b)(1)-(2), (4)-(5)	Initial Notifications	Submit notification within 120 days after effective date, or no later than 120 days after the source becomes subject to this subpart, whichever is later; notification of intent to construct/reconstruct, notification of commencement of construction/ reconstruction, notification of startup; contents of each	Yes.
§ 63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed best available control technology or lowest achievable emission rate	Yes.
§ 63.9(d)	Notification of Special Compliance Requirements for New Sources	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	Yes.
§ 63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	Yes.
§ 63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	No.
§ 63.9(g)	Additional Notifications when Using CMS	Notification of performance evaluation; notification about use of COMS data; notification that exceeded criterion for relative accuracy alternative	Yes, however, there are no opacity standards.
§ 63.9(h)(1)-(6)	Notification of Compliance Status	Contents due 60 days after end of performance test or other compliance demonstration, except for opacity/VE, which are due 30 days after; when to submit to Federal vs. State authority	Yes, however, there are no opacity standards.
§ 63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change when notifications must be submitted	Yes.
§ 63.9(j)	Change in Previous Information	Must submit within 15 days after the change	Yes.
§ 63.9(k)	Notifications	Electronic reporting procedures	Yes, only as specified in § 63.9(j).
§ 63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance	Yes.

Citation	Subject	Brief description	Applies to subpart CCCCCC
		extension; when to submit to Federal vs. State authority; procedures for owners of more than one source	
§ 63.10(b)(1)	Recordkeeping/Reporting	General requirements; keep all records readily available; keep for 5 years	Yes.
§ 63.10(b)(2)(i)	Records related to SSM	Recordkeeping of occurrence and duration of startups and shutdowns	No.
§ 63.10(b)(2)(ii)	Records related to SSM	Recordkeeping of malfunctions	No. *See* § 63.11125(d) for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunction.
§ 63.10(b)(2)(iii)	Maintenance records	Recordkeeping of maintenance on air pollution control and monitoring equipment	Yes.
§ 63.10(b)(2)(iv)	Records Related to SSM	Actions taken to minimize emissions during SSM	No.
§ 63.10(b)(2)(v)	Records Related to SSM	Actions taken to minimize emissions during SSM	No.
§ 63.10(b)(2)(vi)-(xi)	CMS Records	Malfunctions, inoperative, out-of-control periods	No.
§ 63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§ 63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	Yes.
§ 63.10(b)(2)(xiv)	Records	All documentation supporting Initial Notification and Notification of Compliance Status	Yes.
§ 63.10(b)(3)	Records	Applicability determinations	Yes.
§ 63.10(c)	Records	Additional records for CMS	No.
§ 63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.

Citation	Subject	Brief description	Applies to subpart CCCCCC
§ 63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	Yes.
§ 63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	No.
§ 63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	Yes.
§ 63.10(d)(5)	SSM Reports	Contents and submission	No. *See* § 63.11126(b) for malfunction reporting requirements.
§ 63.10(e)(1)-(2)	Additional CMS Reports	Must report results for each CEMS on a unit; written copy of CMS performance evaluation; two-three copies of COMS performance evaluation	No.
§ 63.10(e)(3)(i)-(iii)	Reports	Schedule for reporting excess emissions	No.
§ 63.10(e)(3)(iv)-(v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedances (now defined as deviations); provision to request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit report containing all of the information in §§ 63.8(c)(7)-(8) and 63.10(c)(5)-(13)	No.
§ 63.10(e)(3)(iv)-(v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedances (now defined as	No, § 63.11130(K) specifies excess

Citation	Subject	Brief description	Applies to subpart CCCCCC
		deviations); provision to request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit report containing all of the information in §§ 63.8(c)(7)-(8) and 63.10(c)(5)-(13)	emission events for this subpart.
§ 63.10(e)(3)(vi)-(viii)	Excess Emissions Report and Summary Report	Requirements for reporting excess emissions for CMS; requires all of the information in §§ 63.10(c)(5)-(13) and 63.8(c)(7)-(8)	No.
§ 63.10(e)(4)	Reporting COMS Data	Must submit COMS data with performance test data	No.
§ 63.10(f)	Waiver for Recordkeeping/ Reporting	Procedures for Administrator to waive	Yes.
§ 63.11(b)	Flares	Requirements for flares	No.
§ 63.12	Delegation	State authority to enforce standards	Yes.
§ 63.13	Addresses	Addresses where reports, notifications, and requests are sent	Yes.
§ 63.14	Incorporations by Reference	Test methods incorporated by reference	Yes.
§ 63.15	Availability of Information	Public and confidential information	Yes.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4184, Jan. 24, 2011; 85 FR 73919, Nov. 19, 2020]

Appendix E:

40 C.F.R. Part 60, Subpart JJJJ

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 60 —Standards of Performance for New Stationary Sources

Authority: 42 U.S.C. 7401 *et seq.*
Source: 36 FR 24877, Dec. 23, 1971, unless otherwise noted.

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

What This Subpart Covers

§ 60.4230 Am I subject to this subpart?

Emission Standards for Manufacturers

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

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

Emission Standards for Owners and Operators

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

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

Other Requirements for Owners and Operators

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

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

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

Compliance Requirements for Manufacturers

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

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

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

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

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

Compliance Requirements for Owners and Operators

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

Testing Requirements for Owners and Operators

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

Notification, Reports, and Records for Owners and Operators

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

General Provisions

§ 60.4246 What General Provisions and confidential information provisions apply to me?

Mobile Source Provisions

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

Definitions

§ 60.4248 What definitions apply to this subpart?

Table 1 to Subpart JJJJ of Part 60

NO_X, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP

Table 2 to Subpart JJJJ of Part 60

Requirements for Performance Tests

Table 3 to Subpart JJJJ of Part 60

Applicability of General Provisions to Subpart JJJJ

Table 4 to Subpart JJJJ of Part 60

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

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

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

WHAT THIS SUBPART COVERS

§ 60.4230 Am I subject to this subpart?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(iv) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).

(5) Owners and operators of stationary SI ICE that are modified or reconstructed after June 12, 2006, and any person that modifies or reconstructs any stationary SI ICE after June 12, 2006.

(6) The provisions of § 60.4236 of this subpart are applicable to all owners and operators of stationary SI ICE that commence construction after June 12, 2006.

(b) The provisions of this subpart are not applicable to stationary SI ICE being tested at an engine test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(d) For the purposes of this subpart, stationary SI ICE using alcohol-based fuels are considered gasoline engines.

(e) Stationary SI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR parts 1048 and 1054, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

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

[73 FR 3591, Jan. 18, 2008, as amended at 76 FR 37972, June 28, 2011; 86 FR 34360, June 29, 2021]

EMISSION STANDARDS FOR MANUFACTURERS

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

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

If engine displacement is . . .	and manufacturing dates are . . .	the engine must meet the following non-handheld emission standards identified in 40 CFR part 1054 and related requirements:
(1) Below 225 cc	July 1, 2008 to December 31, 2011	Phase 2.
(2) Below 225	January 1, 2012	Phase 3.

If engine displacement is . . .	and manufacturing dates are . . .	the engine must meet the following non-handheld emission standards identified in 40 CFR part 1054 and related requirements:
cc	or later	
(3) At or above 225 cc	July 1, 2008 to December 31, 2010	Phase 2.
(4) At or above 225 cc	January 1, 2011 or later	Phase 3.

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

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

(d) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) under the voluntary manufacturer certification program described in this subpart must certify those engines to the certification emission standards for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers who choose to

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

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

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

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

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59175, Oct. 8, 2008; 76 FR 37973, June 28, 2011; 78 FR 6697, Jan. 30, 2013; 86 FR 34360, June 29, 2021]

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

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

EMISSION STANDARDS FOR OWNERS AND OPERATORS

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

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

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

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

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

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

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

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

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

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

(4) Owners and operators of stationary SI natural gas and lean burn LPG engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (d) or (e) of this section, except that such owners and operators of non-emergency engines and emergency engines greater than or equal to 130 HP must meet a nitrogen oxides (NO_X) emission standard of 3.0 grams per HP-hour (g/HP-hr), a CO emission standard of 4.0 g/HP-hr (5.0 g/HP-hr for non-emergency engines less than 100 HP), and a volatile organic compounds (VOC) emission standard of 1.0 g/HP-hr, or a NO_X emission standard of 250 ppmvd at 15 percent oxygen (O_2), a CO emission standard 540 ppmvd at 15 percent O_2 (675 ppmvd at 15 percent O_2 for non-emergency engines less than 100 HP), and a VOC emission standard of 86 ppmvd at 15 percent O_2, where the date of manufacture of the engine is:

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

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

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

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

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

(g) Owners and operators of stationary SI wellhead gas ICE engines may petition the Administrator for approval on a case-by-case basis to meet emission standards no less stringent than the emission standards that apply to stationary emergency SI engines greater than 25 HP and less than 130 HP due to

the presence of high sulfur levels in the fuel, as specified in Table 1 to this subpart. The request must, at a minimum, demonstrate that the fuel has high sulfur levels that prevent the use of aftertreatment controls and also that the owner has reasonably made all attempts possible to obtain an engine that will meet the standards without the use of aftertreatment controls. The petition must request the most stringent standards reasonably applicable to the engine using the fuel.

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

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

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

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

Other Requirements for Owners and Operators

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

Owners and operators of stationary SI ICE subject to this subpart that use gasoline must use gasoline that meets the per gallon sulfur limit in 40 CFR 1090.205.

[73 FR 3591, Jan. 18, 2008, as amended at 85 FR 78463, Dec. 4, 2020]

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

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

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

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

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

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

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

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

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

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

Compliance Requirements for Manufacturers

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

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

[86 FR 34361, June 29, 2021]

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

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

[86 FR 34361, June 29, 2021]

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

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

[86 FR 34361, June 29, 2021]

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

(a) Manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to certify their engines to the emission standards in § 60.4231(d) or (e), as applicable, under the voluntary certification program described in this subpart. Manufacturers who certify their engines under the voluntary certification program must meet the requirements as specified in paragraphs (b) through (g) of this section. In addition, manufacturers of stationary SI internal combustion engines who choose to certify their engines under the voluntary certification program, must also meet the requirements as specified in § 60.4247. Manufacturers of stationary SI internal combustion engines who choose not to certify their engines under this section must notify the ultimate purchaser that testing requirements apply as described in § 60.4243(b)(2); manufacturers must keep a copy of this notification for five years after shipping each engine and make those documents available to EPA upon request.

(b) Manufacturers of engines other than those certified to standards in 40 CFR part 1054 must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must follow the same test procedures that apply to Large SI nonroad engines under 40 CFR part 1048, but must use the D–1 cycle of International Organization for Standardization 8178–4: 1996(E) (incorporated by reference, see § 60.17) or the test cycle requirements specified in Table 3 to 40 CFR 1048.505, except that Table 3 of 40 CFR 1048.505 applies to high load engines only. Manufacturers of any size may certify their stationary emergency engines at or above 130 hp using assigned deterioration factors established by EPA, consistent with 40 CFR 1048.240. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1054, and manufacturers of emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 standards in 40 CFR part 1054,

appendix I, applicable to class II engines, must certify their stationary SI ICE using the certification and testing procedures required in 40 CFR part 1054, subparts C and F. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

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

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

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

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

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

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

(i) For engines being certified to the voluntary certification standards in Table 1 of this subpart, the VOC measurement shall be made by following the procedures in 40 CFR part 1065, subpart C, to determine the total NMHC emissions. As an alternative, manufacturers may measure ethane, as well as methane, for excluding such levels from the total VOC measurement.

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59176, Oct. 8, 2008; 76 FR 37974, June 28, 2011; 86 FR 34361, June 29, 2021]

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

manufacturer of equipment containing such engines?

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

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

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

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

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

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

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

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

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

[86 FR 34362, June 29, 2021]

COMPLIANCE REQUIREMENTS FOR OWNERS AND OPERATORS

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

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

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

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

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

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

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

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

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

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

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

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

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

(d) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (d)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (d)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in paragraphs (d)(1) through (3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for the purpose specified in paragraph (d)(2)(i) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (d)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (d)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for

maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii)–(iii) [Reserved]

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (d)(2) of this section. Except as provided in paragraph (d)(3)(i) 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) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

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

(f) If you are an owner or operator of a stationary SI internal combustion engine that is less than or equal to 500 HP and you purchase a non-certified engine or you do not operate and maintain your certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the stationary engine undergoes rebuild, major repair or maintenance. Engine rebuilding means to overhaul an engine or to otherwise perform extensive service on the engine (or on a portion of the engine or engine system). For the purpose of this paragraph (f), perform extensive service means to disassemble the engine (or portion

of the engine or engine system), inspect and/or replace many of the parts, and reassemble the engine (or portion of the engine or engine system) in such a manner that significantly increases the service life of the resultant engine.

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

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

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

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

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

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

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

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

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

[73 FR 3591, Jan. 18, 2008, as amended at 76 FR 37974, June 28, 2011; 78 FR 6697, Jan. 30, 2013; 86 FR 34362, June 29, 2021; 87 FR 48606, Aug. 10, 2022]

TESTING REQUIREMENTS FOR OWNERS AND OPERATORS

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

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

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

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

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

(d) To determine compliance with the NO_X mass per unit output emission limitation, convert the concentration of NO_X in the engine exhaust using Equation 1 of this section:

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

Where:

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

C_d = Measured NO_X concentration in parts per million by volume (ppmv).

1.912×10^{-3} = Conversion constant for ppm NO_X to grams per standard cubic meter at 20 degrees Celsius.

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

T = Time of test run, in hours.

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

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

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

Where:

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

C_d = Measured CO concentration in ppmv.

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

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

T = Time of test run, in hours.

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

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

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

Where:

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

C_d = VOC concentration measured as propane in ppmv.

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

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

T = Time of test run, in hours.

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

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

$$RF_i = \frac{C_{Mi}}{C_{Ai}} \qquad \text{(Eq. 4)}$$

Where:

RF_i = Response factor of compound i when measured with EPA Method 25A.

C_{Mi} = Measured concentration of compound i in ppmv as carbon.

C_{Ai} = True concentration of compound i in ppmv as carbon.

$$C_{icorr} = RF_i \times C_{measured} \qquad \text{(Eq. 5)}$$

Where:

C_{icorr} = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

C_{imeas} = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{Pei} = 0.6098 \times C_{imeas} \quad \text{(Eq. 6)}$$

Where:

C_{Peq} = Concentration of compound i in mg of propane equivalent per DSCM.

NOTIFICATION, REPORTS, AND RECORDS FOR OWNERS AND OPERATORS

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

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

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

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

(2) Maintenance conducted on the engine.

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

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

(b) For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

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

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

(2) The address of the affected source;

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

(4) Emission control equipment; and

(5) Fuel used.

(d) Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in § 60.4244 within 60 days after the test has been completed. Performance test reports using EPA Method 18, EPA Method 320, or ASTM D6348–03 (incorporated by reference—see 40 CFR 60.17) to measure VOC require reporting of all QA/QC data. For Method 18, report results from sections 8.4 and 11.1.1.4; for Method 320, report results from sections 8.6.2, 9.0, and 13.0; and for ASTM D6348–03 report results of all QA/QC procedures in Annexes 1–7.

(e) If you own or operate an emergency stationary SI ICE with a maximum engine power more than 100 HP that operates for the purpose specified in § 60.4243(d)(3)(i), you must submit an annual report according to the requirements in paragraphs (e)(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)–(vi) [Reserved]

(vii) Hours spent for operation for the purposes specified in § 60.4243(d)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in § 60.4243(d)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 60.4.

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59177, Oct. 8, 2008; 78 FR 6697, Jan. 30, 2013; 81 FR 59809, Aug. 30, 2016; 86 FR 34362, June 29, 2021; 87 FR 48606, Aug. 10, 2022]

GENERAL PROVISIONS

§ 60.4246 What General Provisions and confidential information provisions apply to me?

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

(b) The provisions of 40 CFR 1068.10 and 1068.11 apply for engine manufacturers. For others, the general confidential business information (CBI) provisions apply as described in 40 CFR part 2.

[88 FR 4471, Jan. 24, 2023]

MOBILE SOURCE PROVISIONS

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

(a) Manufacturers certifying to emission standards in 40 CFR part 1054 must meet the provisions of 40 CFR part 1054. Note that 40 CFR part 1054, appendix I, describes various provisions that do not apply for engines meeting Phase 1 standards in 40 CFR part 1054. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060 to the extent they apply to equipment manufacturers.

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

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

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59177, Oct. 8, 2008; 86 FR 34362, June 29, 2021]

DEFINITIONS

§ 60.4248 What definitions apply to this subpart?

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

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) are given in 40 CFR 1054.107 and 1060.101, as appropriate. The values for certified emissions life for stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) certified to 40 CFR part 1048 are given in 40 CFR 1048.101(g). The certified emissions life for stationary SI ICE with a maximum engine power greater than 75 KW (100 HP) certified under the voluntary manufacturer certification program of this subpart is 5,000 hours or 7 years, whichever comes first. You may request in your application for certification that we approve a shorter certified emissions life for an engine family. We may approve a shorter certified emissions life, in

hours of engine operation but not in years, if we determine that these engines will rarely operate longer than the shorter certified emissions life. If engines identical to those in the engine family have already been produced and are in use, your demonstration must include documentation from such in-use engines. In other cases, your demonstration must include an engineering analysis of information equivalent to such in-use data, such as data from research engines or similar engine models that are already in production. Your demonstration must also include any overhaul interval that you recommend, any mechanical warranty that you offer for the engine or its components, and any relevant customer design specifications. Your demonstration may include any other relevant information. The certified emissions life value may not be shorter than any of the following:

(1) 1,000 hours of operation.

(2) Your recommended overhaul interval.

(3) Your mechanical warranty for the engine.

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

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

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

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

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

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

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and carbon dioxide (CO_2).

Emergency stationary internal combustion engine means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in § 60.4243(d) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in § 60.4243(d), then it is not considered to be an emergency stationary ICE under this subpart.

(1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc.

(2) The stationary ICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in § 60.4243(d).

(3) The stationary ICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in § 60.4243(d)(3)(i).

Engine manufacturer means the manufacturer of the engine. See the definition of “manufacturer” in this section.

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

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

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

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

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

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

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

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

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

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

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

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

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

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

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

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to June 12, 2006, with passive emission control technology for NO_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.

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

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

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

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

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

Subpart means 40 CFR part 60, subpart JJJJ.

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

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

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

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59177, Oct. 8, 2008; 76 FR 37974, June 28, 2011; 78 FR 6698, Jan. 30, 2013; 86 FR 34363, June 29, 2021; 87 FR 48606, Aug. 10, 2022]

Table 1 to Subpart JJJJ of Part 60—NO_X, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards[a]					
			g/HP-hr			ppmvd at 15% O_2		
			NO_X	CO	VOC[d]	NO_X	CO	VOC[d]
Non-Emergency SI Natural Gas[b] and Non-Emergency SI Lean Burn LPG[b]	100≤HP<500	7/1/2008	2.0	4.0	1.0	160	540	86
		1/1/2011	1.0	2.0	0.7	82	270	60
Non-Emergency SI Lean Burn Natural Gas and LPG	500≤HP<1,350	1/1/2008	2.0	4.0	1.0	160	540	86
		7/1/2010	1.0	2.0	0.7	82	270	60
Non-Emergency SI Natural Gas and Non-Emergency SI Lean Burn LPG (except lean burn 500≤HP<1,350)	HP≥500	7/1/2007	2.0	4.0	1.0	160	540	86
	HP≥500	7/1/2010	1.0	2.0	0.7	82	270	60
Landfill/Digester Gas (except lean burn 500≤HP<1,350)	HP<500	7/1/2008	3.0	5.0	1.0	220	610	80
		1/1/2011	2.0	5.0	1.0	150	610	80
	HP≥500	7/1/2007	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Landfill/Digester Gas Lean Burn	500≤HP<1,350	1/1/2008	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Emergency	25<HP<130	1/1/2009	[c] 10	387	N/A	N/A	N/A	N/A
	HP≥130		2.0	4.0	1.0	160	540	86

[a] Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O_2.

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

[c] The emission standards applicable to emergency engines between 25 HP and 130 HP are in terms of NO_X + HC.

[d] For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

[76 FR 37975, June 28, 2011]

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

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

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary SI internal combustion engine demonstrating compliance according to § 60.4244	a. Limit the concentration of NO_X in the stationary SI internal combustion engine exhaust	i. Select the sampling port location and the number/ location of traverse points at the exhaust of the stationary internal combustion engine;	(1) Method 1 or 1A of 40 CFR part 60, appendix A–1, if measuring flow rate	(a) Alternatively, for NO_X, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter*and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, Appendix A, 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. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B[b] of 40 CFR part 60, appendix A–2 or ASTM Method D6522–00 (Reapproved 2005) [a d]	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for NO_X concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion	(3) Method 2 or 2C of 40 CFR part 60, appendix A–1 or Method 19 of 40 CFR part 60, appendix A–7	(c) Measurements to determine the exhaust flowrate must be made (1) at the same time as the measurement for NO_X concentration or, alternatively (2) according to the option in Section 11.1.2 of Method 1A of 40 CFR part 60, Appendix A–1, if applicable.

For each	Complying with the requirement to	You must	Using	According to the following requirements
		engine exhaust;		
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A–3, Method 320 of 40 CFR part 63, appendix A,[e] or ASTM Method D6348–03 [d e]	(d) Measurements to determine moisture must be made at the same time as the measurement for NO_X concentration.
		v. Measure NO_X at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device	(5) Method 7E of 40 CFR part 60, appendix A–4, ASTM Method D6522–00 (Reapproved 2005),[a d] Method 320 of 40 CFR part 63, appendix A,[e] or ASTM Method D6348–03 [d e]	(e) Results of this test consist of the average of the three 1-hour or longer runs.
	b. Limit the concentration of CO in the stationary SI internal combustion engine exhaust	i. Select the sampling port location and the number/ location of traverse points at the exhaust of the stationary internal combustion engine;	(1) Method 1 or 1A of 40 CFR part 60, appendix A–1, if measuring flow rate	(a) Alternatively, for CO, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter*and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, Appendix A, the duct may be

For each	Complying with the requirement to	You must	Using	According to the following requirements
				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. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B[b] of 40 CFR part 60, appendix A–2 or ASTM Method D6522–00 (Reapproved 2005) [a d]	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for CO concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 2C of 40 CFR 60, appendix A–1 or Method 19 of 40 CFR part 60, appendix A–7	(c) Measurements to determine the exhaust flowrate must be made (1) at the same time as the measurement for CO concentration or, alternatively (2) according to the option in Section 11.1.2 of Method 1A of 40 CFR part 60, Appendix A–1, if applicable.
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A–3, Method 320 of 40 CFR part 63, appendix A,[e] or ASTM Method D6348–03 [d e]	(d) Measurements to determine moisture must be made at the same time as the measurement for CO concentration.
		v. Measure CO at the exhaust of the stationary internal	(5) Method 10 of 40 CFR part 60, appendix A4, ASTM Method	(e) Results of this test consist of the average of the three 1-hour or longer runs.

For each	Complying with the requirement to	You must	Using	According to the following requirements
		combustion engine; if using a control device, the sampling site must be located at the outlet of the control device	D6522–00 (Reapproved 2005),[a d e] Method 320 of 40 CFR part 63, appendix A,[e] or ASTM Method D6348–03 [d e]	
	c. Limit the concentration of VOC in the stationary SI internal combustion engine exhaust	i. Select the sampling port location and the number/ location of traverse points at the exhaust of the stationary internal combustion engine;	(1) Method 1 or 1A of 40 CFR part 60, appendix A–1, if measuring flow rate	(a) Alternatively, for VOC, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter*and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, Appendix A, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, Appendix A.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B[b] of 40 CFR part 60, appendix A–2 or ASTM Method D6522–00 (Reapproved 2005) [a d]	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for VOC concentration.
		iii. If necessary, determine the exhaust	(3) Method 2 or 2C of 40 CFR 60, appendix A–1 or Method	(c) Measurements to determine the exhaust flowrate must be made (1) at the same time as the measurement for VOC concentration or, alternatively (2)

For each	Complying with the requirement to	You must	Using	According to the following requirements
		flowrate of the stationary internal combustion engine exhaust;	19 of 40 CFR part 60, appendix A–7	according to the option in Section 11.1.2 of Method 1A of 40 CFR part 60, Appendix A–1, if applicable.
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A–3, Method 320 of 40 CFR part 63, appendix A,[e] or ASTM Method D6348–03 [d e]	(d) Measurements to determine moisture must be made at the same time as the measurement for VOC concentration.
		v. Measure VOC at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device	(5) Methods 25A and 18 of 40 CFR part 60, appendices A–6 and A–7, Method 25A with the use of a hydrocarbon cutter as described in 40 CFR 1065.265, Method 18 of 40 CFR part 60, appendix A–6,[c e] Method 320 of 40 CFR part 63, appendix A,[e] or ASTM Method D6348–03 [d e]	(e) Results of this test consist of the average of the three 1-hour or longer runs.

[a] Also, you may petition the Administrator for approval to use alternative methods for portable analyzer.

[b] You may use ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses, for measuring the O_2 content of the exhaust gas as an alternative to EPA Method 3B. AMSE PTC 19.10–1981 incorporated by reference, see 40 CFR 60.17

[c] You may use EPA Method 18 of 40 CFR part 60, appendix A–6, provided that you conduct an adequate pre-survey test prior to the emissions test, such as the one described in OTM 11 on EPA's website (*http://www.epa.gov/ttn/emc/prelim/otm11.pdf*).

[d] Incorporated by reference; see 40 CFR 60.17.

[e] You must meet the requirements in § 60.4245(d).

[85 FR 63408, Oct. 7, 2020]

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

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

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 60.1	General applicability of the General Provisions	Yes	
§ 60.2	Definitions	Yes	Additional terms defined in § 60.4248.
§ 60.3	Units and abbreviations	Yes	
§ 60.4	Address	Yes	
§ 60.5	Determination of construction or modification	Yes	
§ 60.6	Review of plans	Yes	
§ 60.7	Notification and Recordkeeping	Yes	Except that § 60.7 only applies as specified in § 60.4245.
§ 60.8	Performance tests	Yes	Except that § 60.8 only applies to owners and operators who are subject to performance testing in subpart JJJJ.
§ 60.9	Availability of information	Yes	
§ 60.10	State Authority	Yes	
§ 60.11	Compliance with standards and maintenance requirements	Yes	Requirements are specified in subpart JJJJ.
§ 60.12	Circumvention	Yes	
§ 60.13	Monitoring requirements	No	
§ 60.14	Modification	Yes	
§ 60.15	Reconstruction	Yes	
§ 60.16	Priority list	Yes	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 60.17	Incorporations by reference	Yes	
§ 60.18	General control device requirements	No	
§ 60.19	General notification and reporting requirements	Yes	

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

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

Mobile source provisions citation	Subject of citation	Applies to subpart	Explanation
1048 subpart A	Overview and Applicability	Yes	
1048 subpart B	Emission Standards and Related Requirements	Yes	Except for the specific sections below.
1048.101	Exhaust Emission Standards	No	
1048.105	Evaporative Emission Standards	No	
1048.110	Diagnosing Malfunctions	No	
1048.140	Certifying Blue Sky Series Engines	No	
1048.145	Interim Provisions	No	
1048 subpart C	Certifying Engine Families	Yes	Except for the specific sections below.
1048.205(b)	AECD reporting	Yes	
1048.205(c)	OBD Requirements	No	
1048.205(n)	Deterioration Factors	Yes	Except as indicated in 60.4247(c).
1048.205(p)(1)	Deterioration Factor Discussion	Yes	
1048.205(p)(2)	Liquid Fuels as they require	No	
1048.240(b)(c)(d)	Deterioration Factors	Yes	
1048 subpart D	Testing Production-Line Engines	Yes	
1048 subpart E	Testing In-Use Engines	No	
1048 subpart F	Test Procedures	Yes	
1065.5(a)(4)	Raw sampling (refers reader back to the specific emissions regulation for guidance)	Yes	

Mobile source provisions citation	Subject of citation	Applies to subpart	Explanation
1048 subpart G	Compliance Provisions	Yes	
1048 subpart H	Reserved		
1048 subpart I	Definitions and Other Reference Information	Yes	
1048 appendix I and II	Yes		
1065 (all subparts)	Engine Testing Procedures	Yes	Except for the specific section below.
1065.715	Test Fuel Specifications for Natural Gas	No	
1068 (all subparts)	General Compliance Provisions for Nonroad Programs	Yes	Except for the specific sections below.
1068.245	Hardship Provisions for Unusual Circumstances	No	
1068.250	Hardship Provisions for Small-Volume Manufacturers	No	
1068.255	Hardship Provisions for Equipment Manufacturers and Secondary Engine Manufacturers	No	

Appendix F:

40 C.F.R. Part 60, Subpart IIII

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 60 —Standards of Performance for New Stationary Sources

Authority: 42 U.S.C. 7401 *et seq.*

Source: 36 FR 24877, Dec. 23, 1971, unless otherwise noted.

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

What This Subpart Covers
§ 60.4200 Am I subject to this subpart?
Emission Standards for Manufacturers
§ 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?
§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?
§ 60.4203 How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?
Emission Standards for Owners and Operators
§ 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?
§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?
§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?
Fuel Requirements for Owners and Operators
§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?
Other Requirements for Owners and Operators
§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?
§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?
Compliance Requirements
§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?
§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?
Testing Requirements for Owners and Operators
§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?
§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?
Notification, Reports, and Records for Owners and Operators
§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

Special Requirements

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

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

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

General Provisions

§ 60.4218 What General Provisions and confidential information provisions apply to me?

Definitions

§ 60.4219 What definitions apply to this subpart?

Table 1 to Subpart IIII of Part 60

Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

Table 2 to Subpart IIII of Part 60

Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

Table 3 to Subpart IIII of Part 60

Certification Requirements for Stationary Fire Pump Engines

Table 4 to Subpart IIII of Part 60

Emission Standards for Stationary Fire Pump Engines

Table 5 to Subpart IIII of Part 60

Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

Table 6 to Subpart IIII of Part 60

Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

Table 7 to Subpart IIII of Part 60

Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 Liters per Cylinder

Table 8 to Subpart IIII of Part 60

Applicability of General Provisions to Subpart IIII

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

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

WHAT THIS SUBPART COVERS

§ 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

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

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of § 60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C, except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

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

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011; 86 FR 34357, June 29, 2021]

EMISSION STANDARDS FOR MANUFACTURERS

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

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 1039.102, 1039.104, 1039.105, 1039.107, and 1039.115 and 40 CFR part 1039, appendix I, as applicable, for all pollutants, for the same model year and maximum engine power.

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

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

(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the appropriate Tier 2 emission standards for new marine CI engines as described in 40 CFR part 1042, appendix I, for all pollutants, for the same displacement and rated power:

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

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

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

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

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

(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) of this section may be certified to the provisions of 40 CFR part 1042 for commercial engines that are applicable for the engine's model year, displacement, power density, and maximum engine power if the engines will be used solely in either or both of the following locations:

(1) Remote areas of Alaska; and

(2) Marine offshore installations.

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

(h) Stationary CI ICE certified to the standards in 40 CFR part 1039 and equipped with auxiliary emission control devices (AECDs) as specified in 40 CFR 1039.665 must meet the Tier 1 certification emission standards for new nonroad CI engines in 40 CFR part 1039, appendix I, while the AECD is activated during a qualified emergency situation. A qualified emergency situation is defined in 40 CFR 1039.665. When the qualified emergency situation has ended and the AECD is deactivated, the engine must resume meeting the otherwise applicable emission standard specified in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011; 81 FR 44219, July 7, 2016; 86 FR 34357, June 29, 2021]

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

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

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

(i) The Tier 2 emission standards for new nonroad CI engines for the appropriate rated power as described in 40 CFR part 1039, appendix I, for all pollutants and the smoke standards as specified in 40 CFR 1039.105 for model year 2007 engines; and

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

(2) For engines with a rated power greater than or equal to 37 KW (50 HP), the Tier 2 or Tier 3 emission standards for new nonroad CI engines for the same rated power as described in 40 CFR part 1039, appendix I, for all pollutants and the smoke standards as specified in 40 CFR 1039.105 beginning in model year 2007.

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

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

(2) For 2011 model year and later, the Tier 2 emission standards as described in 40 CFR part 1039, appendix I, for all pollutants and the smoke standards as specified in 40 CFR 1039.105.

(c) [Reserved]

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

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the appropriate Tier 2 emission standards for new marine CI engines as described in 40 CFR part 1042, appendix I, for all pollutants, for the same displacement and rated power:

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

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

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

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

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

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

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

(g) Notwithstanding the requirements in paragraphs (a) through (d) of this section, stationary emergency CI ICE identified in paragraphs (a) and (c) of this section may be certified to the provisions of 40 CFR part 1042 for commercial engines that are applicable for the engine's model year, displacement, power density, and maximum engine power if the engines will be used solely in either or both of the locations identified in paragraphs (g)(1) and (2) of this section. Engines that would be subject to the Tier 4 standards in 40 CFR part 1042 that are used solely in either or both of the locations identified in paragraphs (g)(1) and (2) of this section may instead continue to be certified to the previous tier of standards in 40 CFR part 1042. The previous tier is Tier 3 in most cases; however, the previous tier is Tier 2 if there are no Tier 3 standards specified for engines of a certain size or power rating.

(1) Remote areas of Alaska; and

(2) Marine offshore installations.

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

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011; 81 FR 44219, July 7, 2016; 86 FR 34358, June 29, 2021; 88 FR 4471, Jan. 24, 2023]

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

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

[76 FR 37968, June 28, 2011]

Emission Standards for Owners and Operators

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

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the Tier 1 emission standards in 40 CFR part 1042, appendix I.

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

(c) Owners and operators of non-emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(f) Owners and operators of stationary CI ICE certified to the standards in 40 CFR part 1039 and equipped with AECDs as specified in 40 CFR 1039.665 must meet the Tier 1 certification emission standards for new nonroad CI engines in 40 CFR part 1039, appendix I, while the AECD is activated during a qualified emergency situation. A qualified emergency situation is defined in 40 CFR 1039.665. When the qualified emergency situation has ended and the AECD is deactivated, the engine must resume meeting the otherwise applicable emission standard specified in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011; 81 FR 44219, July 7, 2016; 86 FR 34358, June 29, 2021]

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

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the Tier 1 emission standards in 40 CFR part 1042, appendix I.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011; 86 FR 34358, June 29, 2021]

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

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§ 60.4204 and 60.4205 over the entire life of the engine.

[76 FR 37969, June 28, 2011]

Fuel Requirements for Owners and Operators

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

(a) [Reserved]

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

(c) [Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder must use diesel fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

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

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011; 78 FR 6695, Jan. 30, 2013; 85 FR 78463, Dec. 4, 2020]

OTHER REQUIREMENTS FOR OWNERS AND OPERATORS

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

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

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

(h) In addition to the requirements specified in §§ 60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.

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

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

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

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

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

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

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

COMPLIANCE REQUIREMENTS

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

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §§ 60.4201(a) through (c) and 60.4202(a), (b), and (d) using the certification procedures required in 40 CFR part 1039, subpart C, and must test their engines as specified in 40 CFR part 1039. For the purposes of this subpart, engines certified to the standards in Table 1 to this subpart shall be subject to the same certification procedures required for engines certified to the Tier 1 standards in 40 CFR part 1039, appendix I. For the purposes of this subpart, engines certified to the standards in Table 4 to this subpart shall be subject to the same certification procedures required for engines certified to the Tier 1 standards in 40 CFR part 1039, appendix I, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §§ 60.4201(d) and (e) and 60.4202(e) and (f) using the certification procedures required in 40 CFR part 1042, subpart C, and must test their engines as specified in 40 CFR part 1042.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135 and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 1042 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

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

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

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

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

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

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

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR part 1039 or 1042, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR part 1039 or 1042, as appropriate, but the words “stationary” must be included instead of “nonroad” or “marine” on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR part 1039 or 1042 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking, and trading provisions applicable for such engines under those parts.

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

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

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

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

(i) The replacement engine provisions of 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

(j) Stationary CI ICE manufacturers may equip their stationary CI internal combustion engines certified to the emission standards in 40 CFR part 1039 with AECDs for qualified emergency situations according to the requirements of 40 CFR 1039.665. Manufacturers of stationary CI ICE equipped with AECDs as allowed by 40 CFR 1039.665 must meet all the requirements in 40 CFR 1039.665 that apply to manufacturers.

Manufacturers must document that the engine complies with the Tier 1 standard in 40 CFR part 1039, appendix I, when the AECD is activated. Manufacturers must provide any relevant testing, engineering analysis, or other information in sufficient detail to support such statement when applying for certification (including amending an existing certificate) of an engine equipped with an AECD as allowed by 40 CFR 1039.665.

(k) Manufacturers of any size may certify their emergency stationary CI internal combustion engines under this section using assigned deterioration factors established by EPA, consistent with 40 CFR 1039.240 and 1042.240.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011; 81 FR 44219, July 7, 2016; 86 FR 34358, June 29, 2021]

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

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR part 1068, as they apply to you.

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

(1) Purchasing an engine certified to emission standards for the same model year and maximum engine power as described in 40 CFR parts 1039 and 1042, as applicable. The engine must be installed and configured according to the manufacturer's specifications.

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

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

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

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

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in § 60.4204(b) or § 60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in § 60.4205(c), you must comply by purchasing an engine certified to the emission standards in § 60.4204(b), or § 60.4205(b) or (c), as applicable, for the same model year and

maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

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

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

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

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

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

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

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

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

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

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in § 60.4204(e) or § 60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in § 60.4204(e) or § 60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in § 60.4212 or § 60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as

described in paragraphs (f)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for the purpose specified in paragraph (f)(2)(i) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii)-(iii) [Reserved]

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

(h) The requirements for operators and prohibited acts specified in 40 CFR 1039.665 apply to owners or operators of stationary CI ICE equipped with AECDs for qualified emergency situations as allowed by 40 CFR 1039.665.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011; 78 FR 6695, Jan. 30, 2013; 81 FR 44219, July 7, 2016; 86 FR 34359, June 29, 2021; 87 FR 48605, Aug. 10, 2022]

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

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

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder. Alternatively, stationary CI ICE that are complying with Tier 2 or Tier 3 emission standards as described in 40 CFR part 1039, appendix I, or with Tier 2 emission standards as described in 40 CFR part 1042, appendix I, may follow the testing procedures specified in § 60.4213, as appropriate.

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

(c) Exhaust emissions from stationary CI ICE subject to Tier 2 or Tier 3 emission standards as described in 40 CFR part 1039, appendix I, or Tier 2 emission standards as described in 40 CFR part 1042, appendix I, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard, determined from the following equation:

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

Where:

STD = The standard specified for that pollutant in 40 CFR part 1039 or 1042, as applicable.

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

Where:

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

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

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011; 86 FR 34359, June 29, 2021]

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

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

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

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

(c) You must conduct three separate test runs for each performance test required in this section, as specified in § 60.8(f). Each test run must last at least 1 hour.

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

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

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

Where:

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

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

R = percent reduction of NO_X or PM emissions.

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

$$C_{adj} = C_d \frac{5.9}{20.9 - \%\ O_2} \qquad \text{(Eq. 3)}$$

Where:

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

C_d = Measured concentration of NO_X or PM, uncorrected.

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

$\%O_2$ = Measured O_2 concentration, dry basis, percent.

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

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

$$F_o = \frac{0.209_{F_d}}{F_c} \qquad \text{(Eq. 4)}$$

Where:

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

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

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

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

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

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

Where:

X_{CO2} = CO_2 correction factor, percent.

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

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

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

Where:

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

C_d = Measured concentration of NO_X or PM, uncorrected.

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

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

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

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_X concentration in ppm.

$1.912x10^{-3}$ = Conversion constant for ppm NO_X to grams per standard cubic meter at 25 degrees Celsius.

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

T = Time of test run, in hours.

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

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

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

Where:

ER = Emission rate in grams per KW-hour.

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

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

T = Time of test run, in hours.

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

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

NOTIFICATION, REPORTS, AND RECORDS FOR OWNERS AND OPERATORS

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

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

(1) Submit an initial notification as required in § 60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section. Beginning on February 26, 2025, submit the notification electronically according to paragraph (g) of this section.

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

(ii) The address of the affected source;

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

(iv) Emission control equipment; and

(v) Fuel used.

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

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

(ii) Maintenance conducted on the engine.

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

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

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

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

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates for the purpose specified in § 60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v)-(vi) [Reserved]

(vii) Hours spent for operation for the purposes specified in § 60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in § 60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 60.4. Beginning on February 26, 2025, submit annual report electronically according to paragraph (g) of this section.

(e) Owners or operators of stationary CI ICE equipped with AECDs pursuant to the requirements of 40 CFR 1039.665 must report the use of AECDs as required by 40 CFR 1039.665(e).

(f) Beginning on February 26, 2025, within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test required under this section following the procedures specified in paragraphs (f)(1) and (2) of this section.

(1) ***Data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert) at the time of the test.*** Submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), according to paragraph (g) of this section. The data must be submitted in a file format generated using the EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website.

(2) ***Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test.*** The results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI according to paragraph (g) of this section.

(g) If you are required to submit notifications or reports following the procedure specified in this paragraph (g), you must submit notifications or reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). The EPA will make all the information submitted through CEDRI available to the public without further notice to you. Do not use CEDRI to submit information you claim as CBI. Although we do not expect persons to assert a claim of CBI, if you wish to assert a CBI claim for some of the information in the report or notification, you must submit a complete file in the format specified in this subpart, including information claimed to be CBI, to the EPA following the procedures in paragraphs (g)(1) and (2) of this section. Clearly mark the part or all of the information that you claim to be CBI. Information not marked as CBI may be authorized for public release without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. All CBI claims must be asserted at the time of submission. Anything submitted using CEDRI cannot later be claimed CBI. Furthermore, under CAA section 114(c), emissions data is not entitled to confidential treatment, and the

EPA is required to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available. You must submit the same file submitted to the CBI office with the CBI omitted to the EPA via the EPA's CDX as described earlier in this paragraph (g).

(1) The preferred method to receive CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol, or other online file sharing services. Electronic submissions must be transmitted directly to the OAQPS CBI Office at the email address *oaqpscbi@epa.gov,* and as described in paragraph (g) of this section, should include clear CBI markings. ERT files should be flagged to the attention of the Group Leader, Measurement Policy Group; all other files should be flagged to the attention of the Stationary Compression Ignition Internal Combustion Engine Sector Lead. If assistance is needed with submitting large electronic files that exceed the file size limit for email attachments, and if you do not have your own file sharing service, please email *oaqpscbi@epa.gov* to request a file transfer link.

(2) If you cannot transmit the file electronically, you may send CBI information through the postal service to the following address: OAQPS Document Control Officer (C404-02), OAQPS, U.S. Environmental Protection Agency, 109 T.W. Alexander Drive, P.O. Box 12055, Research Triangle Park, North Carolina 27711. ERT files should be sent to the attention of the Group Leader, Measurement Policy Group, and all other files should be sent to the attention of the Stationary Compression Ignition Internal Combustion Engine Sector Lead. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope.

(h) If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of EPA system outage for failure to timely comply with that reporting requirement. To assert a claim of EPA system outage, you must meet the requirements outlined in paragraphs (h)(1) through (7) of this section.

(1) You must have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.

(2) The outage must have occurred within the period of time beginning five business days prior to the date that the submission is due.

(3) The outage may be planned or unplanned.

(4) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(5) You must provide to the Administrator a written description identifying:

(i) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;

(iii) A description of measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

(6) The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(7) In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved.

(i) If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of force majeure for failure to timely comply with that reporting requirement. To assert a claim of force majeure, you must meet the requirements outlined in paragraphs (i)(1) through (5) of this section.

(1) You may submit a claim if a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning five business days prior to the date the submission is due. For the purposes of this section, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents you from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (*e.g.,* hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (*e.g.,* large scale power outage).

(2) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(3) You must provide to the Administrator:

(i) A written description of the force majeure event;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;

(iii) A description of measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

(4) The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(5) In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.

(j) Any records required to be maintained by this subpart that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.

[71 FR 39172, July 11, 2006, as amended at 78 FR 6696, Jan. 30, 2013; 81 FR 44219, July 7, 2016; 87 FR 48606, Aug. 10, 2022; 89 FR 70512, Aug. 30, 2024]

Special Requirements

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

(a) Stationary CI ICE with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §§ 60.4202 and 60.4205.

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

(c) Stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

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

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

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

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

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

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

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

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

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

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

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

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in remote areas of Alaska may meet the requirements of this subpart by manufacturing and installing engines meeting the Tier 2 or Tier 3 emission standards described in 40 CFR part 1042 for the same model year, displacement, and maximum engine power, as appropriate, rather than the otherwise applicable requirements of 40 CFR part 1039, as indicated in §§ 60.4201(f) and 60.4202(g).

(c) Manufacturers, owners, and operators of stationary CI ICE that are located in remote areas of Alaska may choose to meet the applicable emission standards for emergency engines in §§ 60.4202 and 60.4205, and not those for non-emergency engines in §§ 60.4201 and 60.4204, except that for 2014 model year and later nonemergency CI ICE, the owner or operator of any such engine must have that engine certified as meeting at least the Tier 3 PM standards identified in appendix I of 40 CFR part 1039 or in 40 CFR 1042.101.

(d) The provisions of § 60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in remote areas of Alaska.

(e) The provisions of § 60.4208(a) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and § 60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in remote areas of Alaska from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.

[76 FR 37971, June 28, 2011, as amended at 81 FR 44219, July 7, 2016; 86 FR 34359, June 29, 2021]

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

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in § 60.4204 or § 60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

General Provisions

§ 60.4218 What General Provisions and confidential information provisions apply to me?

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

(b) The provisions of 40 CFR 1068.10 and 1068.11 apply for engine manufacturers. For others, the general confidential business information (CBI) provisions apply as described in 40 CFR part 2.

[88 FR 4471, Jan. 24, 2023]

Definitions

§ 60.4219 What definitions apply to this subpart?

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

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.

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 1042.101(e).

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

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

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

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

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

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

Emergency stationary internal combustion engine means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in § 60.4211(f) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in § 60.4211(f), then it is not considered to be an emergency stationary ICE under this subpart.

(1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc.

(2) The stationary ICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in § 60.4211(f).

(3) The stationary ICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in § 60.4211(f)(3)(i).

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

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

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

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

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

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

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

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

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

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

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

Remote areas of Alaska means areas of Alaska that meet either paragraph (1) or (2) of this definition.

(1) Areas of Alaska that are not accessible by the Federal Aid Highway System (FAHS).

(2) Areas of Alaska that meet all of the following criteria:

(i) The only connection to the FAHS is through the Alaska Marine Highway System, or the stationary CI ICE 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 CI ICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the source is less than 12 megawatts, or the stationary CI ICE is used exclusively for backup power for renewable energy.

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

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

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

Subpart means 40 CFR part 60, subpart IIII.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011; 78 FR 6696, Jan. 30, 2013; 81 FR 44219, July 7, 2016; 86 FR 34360, June 29, 2021; 87 FR 48606, Aug. 10, 2022]

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

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

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007-2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
KW<8	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007-2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
(HP<11)					
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

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

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

Engine power	Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)			
	Model year(s)	NO_X + NMHC	CO	PM
KW<8 (HP<11)	2008 +	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008 +	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)

Engine power	Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)			
	Model year(s)	NO_X + NMHC	CO	PM
19≤KW<37 (25≤HP<50)	2008 +	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

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

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

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to § 60.4202(d)[1]
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

[1] *Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 KW (600 HP) and a rated speed of greater than 2,650 revolutions per minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.*

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

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

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

Maximum engine power	Model year(s)	Emission standards for stationary fire pump engines in g/KW-hr (g/HP-hr)		
		NMHC + NO_X	CO	PM
KW<8 (HP<11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
KW<8 (HP<11)	2011 +	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
8≤KW<19 (11≤HP<25)	2011 +	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (25≤HP<50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	2011 +	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)
37≤KW<56 (50≤HP<75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
37≤KW<56 (50≤HP<75)	2011 + [1]	4.7 (3.5)	5.0 (3.7)	0.40 (0.30)
56≤KW<75 (75≤HP<100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
56≤KW<75 (75≤HP<100)	2011 + [1]	4.7 (3.5)	5.0 (3.7)	0.40 (0.30)
75≤KW<130 (100≤HP<175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
75≤KW<130 (100≤HP<175)	2010 + [2]	4.0 (3.0)	5.0 (3.7)	0.30 (0.22)
130≤KW<225 (175≤HP<300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
130≤KW<225 (175≤HP<300)	2009 + [3]	4.0 (3.0)	3.5 (2.6)	0.20 (0.15)
225≤KW<450	2008 and	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)

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

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

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

Maximum engine power	Model year(s)	Emission standards for stationary fire pump engines in g/KW-hr (g/HP-hr)		
		NMHC + NO_X	CO	PM
(300≤HP<600)	earlier			
225≤KW<450 (300≤HP<600)	2009 + [3]	4.0 (3.0)	3.5 (2.6)	0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)	2009 +	4.0 (3.0)	3.5 (2.6)	0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
KW>560 (HP>750)	2008 +	6.4 (4.8)	3.5 (2.6)	0.20 (0.15)

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

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

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

[89 FR 70513, Aug. 30, 2024]

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

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

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

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

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

Mode No.	Engine speed [1]	Torque (percent) [2]	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

[1] *Engine speed: ±2 percent of point.*

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

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

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

Each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary CI internal combustion engine with a displacement of ≥ 30 liters per cylinder	a. Reduce NO_X emissions by 90 percent or more;	i. Select the sampling port location and number/ location of traverse points at the inlet and outlet of the control device;		(a) For NO_X, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification

Each	Complying with the requirement to	You must	Using	According to the following requirements
				testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Measure O_2 at the inlet and outlet of the control device;	(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for NO_X concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(2) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurements for NO_X concentration.
		iv. Measure NO_X at the inlet and outlet of the control device.	(3) Method 7E of 40 CFR part 60, appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	b. Limit the concentration of NO_X in the stationary CI internal combustion	i. Select the sampling port location and number/ location of traverse		(a) For NO_X, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3

Each	Complying with the requirement to	You must	Using	According to the following requirements
	engine exhaust.	points at the exhaust of the stationary internal combustion engine;		traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location;	(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurement for NO_X concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(2) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO_X concentration.
		iv. Measure NO_X at the exhaust of	(3) Method 7E of 40 CFR part 60,	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the

Each	Complying with the requirement to	You must	Using	According to the following requirements
		the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device.	appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2 at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR part 60, appendix A-3	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device.	(4) Method 5 of 40 CFR part 60, appendix A-3	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the	i. Select the	(1) Method 1	(a) If using a control device, the

Each	Complying with the requirement to	You must	Using	According to the following requirements
	concentration of PM in the stationary CI internal combustion engine exhaust	sampling port location and the number of traverse points;	or 1A of 40 CFR part 60, appendix A-1	sampling site must be located at the outlet of the control device.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of 40 CFR part 60, appendix A-3	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine.	(4) Method 5 of 40 CFR part 60, appendix A-3	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

[79 FR 11251, Feb. 27, 2014]

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

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

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§ 60.1	General applicability of the General Provisions	Yes	
§ 60.2	Definitions	Yes	Additional terms defined in § 60.4219.
§ 60.3	Units and abbreviations	Yes	
§ 60.4	Address	Yes	
§ 60.5	Determination of construction or modification	Yes	
§ 60.6	Review of plans	Yes	
§ 60.7	Notification and Recordkeeping	Yes	Except that § 60.7 only applies as specified in § 60.4214(a).
§ 60.8	Performance tests	Yes	Except that § 60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§ 60.9	Availability of information	Yes	
§ 60.10	State Authority	Yes	
§ 60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§ 60.12	Circumvention	Yes	
§ 60.13	Monitoring requirements	Yes	Except that § 60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§ 60.14	Modification	Yes	
§ 60.15	Reconstruction	Yes	
§ 60.16	Priority list	Yes	
§ 60.17	Incorporations by reference	Yes	
§ 60.18	General control device requirements	No	
§ 60.19	General notification and reporting	Yes	

General Provisions citation	Subject of citation	Applies to subpart	Explanation
	requirements		

Appendix G:

40 C.F.R. Part 61, Subpart M

This content is from the eCFR and is authoritative but unofficial.

Title 40 —Protection of Environment
Chapter I —Environmental Protection Agency
Subchapter C —Air Programs
Part 61 —National Emission Standards for Hazardous Air Pollutants

Authority: 42 U.S.C. 7401 *et seq.*

Source: 38 FR 8826, Apr. 6, 1973, unless otherwise noted.

Subpart M National Emission Standard for Asbestos
- **§ 61.140** Applicability.
- **§ 61.141** Definitions.
- **§ 61.142** Standard for asbestos mills.
- **§ 61.143** Standard for roadways.
- **§ 61.144** Standard for manufacturing.
- **§ 61.145** Standard for demolition and renovation.
- **§ 61.146** Standard for spraying.
- **§ 61.147** Standard for fabricating.
- **§ 61.148** Standard for insulating materials.
- **§ 61.149** Standard for waste disposal for asbestos mills.
- **§ 61.150** Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations.
- **§ 61.151** Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.
- **§ 61.152** Air-cleaning.
- **§ 61.153** Reporting.
- **§ 61.154** Standard for active waste disposal sites.
- **§ 61.155** Standard for operations that convert asbestos-containing waste material into nonasbestos (asbestos-free) material.
- **§ 61.156** Cross-reference to other asbestos regulations.
- **§ 61.157** Delegation of authority.

Appendix A to Subpart M of Part 61
Interpretive Rule Governing Roof Removal Operations

Subpart M—National Emission Standard for Asbestos

Authority: 42 U.S.C. 7401, 7412, 7414, 7416, 7601.

Source: 49 FR 13661, Apr. 5, 1984, unless otherwise noted.

§ 61.140 Applicability.

The provisions of this subpart are applicable to those sources specified in §§ 61.142 through 61.151, 61.154, and 61.155.

[55 FR 48414, Nov. 20, 1990]

§ 61.141 Definitions.

All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in subpart A of this part.

Active waste disposal site means any disposal site other than an inactive site.

Adequately wet means sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

Asbestos means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.

Asbestos-containing waste materials means mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags or other similar packaging contaminated with commercial asbestos. As applied to demolition and renovation operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.

Asbestos mill means any facility engaged in converting, or in any intermediate step in converting, asbestos ore into commercial asbestos. Outside storage of asbestos material is not considered a part of the asbestos mill.

Asbestos tailings means any solid waste that contains asbestos and is a product of asbestos mining or milling operations.

Asbestos waste from control devices means any waste material that contains asbestos and is collected by a pollution control device.

Category I nonfriable asbestos-containing material (ACM) means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.

Category II nonfriable ACM means any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Commercial asbestos means any material containing asbestos that is extracted from ore and has value because of its asbestos content.

Cutting means to penetrate with a sharp-edged instrument and includes sawing, but does not include shearing, slicing, or punching.

Demolition means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

Emergency renovation operation means a renovation operation that was not planned but results from a sudden, unexpected event that, if not immediately attended to, presents a safety or public health hazard, is necessary to protect equipment from damage, or is necessary to avoid imposing an unreasonable financial burden. This term includes operations necessitated by nonroutine failures of equipment.

Fabricating means any processing (*e.g.,* cutting, sawing, drilling) of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites (field fabricating) for the construction or restoration of facilities. In the case of friction products, fabricating includes bonding, debonding, grinding, sawing, drilling, or other similar operations performed as part of fabricating.

Facility means any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation or building that was previously subject to this subpart is not excluded, regardless of its current use or function.

Facility component means any part of a facility including equipment.

Friable asbestos material means any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent as determined by a method other than point counting by polarized light microscopy (PLM), verify the asbestos content by point counting using PLM.

Fugitive source means any source of emissions not controlled by an air pollution control device.

Glove bag means a sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. Properly installed and used, glove bags provide a small work area enclosure typically used for small-scale asbestos stripping operations. Information on glove-bag installation, equipment and supplies, and work practices is contained in the Occupational Safety and Health Administration's (OSHA's) final rule on occupational exposure to asbestos (appendix G to 29 CFR 1926.58).

Grinding means to reduce to powder or small fragments and includes mechanical chipping or drilling.

In poor condition means the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material.

Inactive waste disposal site means any disposal site or portion of it where additional asbestos-containing waste material has not been deposited within the past year.

Installation means any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of the same owner or operator (or owner or operator under common control).

Leak-tight means that solids or liquids cannot escape or spill out. It also means dust-tight.

Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner so that emissions of asbestos are increased. Failures of equipment shall not be considered malfunctions if they are caused in any way by poor maintenance, careless operation, or any other preventable upset conditions, equipment breakdown, or process failure.

Manufacturing means the combining of commercial asbestos—or, in the case of woven friction products, the combining of textiles containing commercial asbestos—with any other material(s), including commercial asbestos, and the processing of this combination into a product. Chlorine production is considered a part of manufacturing.

Natural barrier means a natural object that effectively precludes or deters access. Natural barriers include physical obstacles such as cliffs, lakes or other large bodies of water, deep and wide ravines, and mountains. Remoteness by itself is not a natural barrier.

Nonfriable asbestos-containing material means any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Nonscheduled renovation operation means a renovation operation necessitated by the routine failure of equipment, which is expected to occur within a given period based on past operating experience, but for which an exact date cannot be predicted.

Outside air means the air outside buildings and structures, including, but not limited to, the air under a bridge or in an open air ferry dock.

Owner or operator of a demolition or renovation activity means any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.

Particulate asbestos material means finely divided particles of asbestos or material containing asbestos.

Planned renovation operations means a renovation operation, or a number of such operations, in which some RACM will be removed or stripped within a given period of time and that can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience.

Regulated asbestos-containing material (RACM) means

(a) Friable asbestos material,

(b) Category I nonfriable ACM that has become friable,

(c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or

(d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

Remove means to take out RACM or facility components that contain or are covered with RACM from any facility.

Renovation means altering a facility or one or more facility components in any way, including the stripping or removal of RACM from a facility component. Operations in which load-supporting structural members are wrecked or taken out are demolitions.

Resilient floor covering means asbestos-containing floor tile, including asphalt and vinyl floor tile, and sheet vinyl floor covering containing more than 1 percent asbestos as determined using polarized light microscopy according to the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.

Roadways means surfaces on which vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways.

Strip means to take off RACM from any part of a facility or facility components.

Structural member means any load-supporting member of a facility, such as beams and load supporting walls; or any nonload-supporting member, such as ceilings and nonload-supporting walls.

Visible emissions means any emissions, which are visually detectable without the aid of instruments, coming from RACM or asbestos-containing waste material, or from any asbestos milling, manufacturing, or fabricating operation. This does not include condensed, uncombined water vapor.

Waste generator means any owner or operator of a source covered by this subpart whose act or process produces asbestos-containing waste material.

Waste shipment record means the shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

Working day means Monday through Friday and includes holidays that fall on any of the days Monday through Friday.

[49 FR 13661, Apr. 5, 1984; 49 FR 25453, June 21, 1984, as amended by 55 FR 48414, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991; 60 FR 31920, June 19, 1995]

§ 61.142 Standard for asbestos mills.

(a) Each owner or operator of an asbestos mill shall either discharge no visible emissions to the outside air from that asbestos mill, including fugitive sources, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(b) Each owner or operator of an asbestos mill shall meet the following requirements:

(1) Monitor each potential source of asbestos emissions from any part of the mill facility, including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, at least once each day, during daylight hours, for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.

(2) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunction, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust

deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(3) Maintain records of the results of visible emissions monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following:

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of fabric filters, including presence of any tears, holes, and abrasions.

(iv) Presence of dust deposits on clean side of fabric filters.

(v) Brief description of corrective actions taken, including date and time.

(vi) Daily hours of operation for each air cleaning device.

(4) Furnish upon request, and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(5) Retain a copy of all monitoring and inspection records for at least 2 years.

(6) Submit semiannually a copy of visible emission monitoring records to the Administrator if visible emissions occurred during the report period. Semiannual reports shall be postmarked by the 30th day following the end of the six-month period.

Date of inspection (mo/day/yr)	Time of inspection (a.m./p.m.)	Air cleaning device or fugitive source designation or number	Visible emissions observed (yes/no), corrective action taken	Daily operating hours	Inspector's initials

Figure 1. Record of Visible Emission Monitoring

1. Air cleaning device designation or number _____

2. Date of inspection _____ _____ _____ _____

3. Time of inspection _____ _____ _____ _____

4. Is air cleaning device operating properly (yes/no) _____ _____ _____ _____

5. Tears, holes, or abrasions in fabric filter (yes/no) _____ _____ _____ _____

6. Dust on clean side of fabric filters (yes/no) _____ _____ _____ _____

7. Other signs of malfunctions or potential malfunctions (yes/no) _____ _____ _____ _____

8. Describe other malfunctions or signs of potential malfunctions. _____

_____

_____

9. Describe corrective action(s) taken. _____

_____

_____

10. Date and time corrective action taken _____ _____ _____ _____

11. Inspected by

_____ _____ _____ _____
(Print/Type Name) (Title) (Signature) (Date)

_____ _____ _____ _____
(Print/Type Name) (Title) (Signature) (Date)

Figure 2. Air Cleaning Device Inspection Checklist

[55 FR 48416, Nov. 20, 1990, as amended at 64 FR 7467, Feb. 12, 1999]

§ 61.143 Standard for roadways.

No person may construct or maintain a roadway with asbestos tailings or asbestos-containing waste material on that roadway, unless, for asbestos tailings.

(a) It is a temporary roadway on an area of asbestos ore deposits (asbestos mine): or

(b) It is a temporary roadway at an active asbestos mill site and is encapsulated with a resinous or bituminous binder. The encapsulated road surface must be maintained at a minimum frequency of once per year to prevent dust emissions; or

(c) It is encapsulated in asphalt concrete meeting the specifications contained in section 401 of Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-85, 1985, or their equivalent.

[55 FR 48419, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

§ 61.144 Standard for manufacturing.

(a) ***Applicability.*** This section applies to the following manufacturing operations using commercial asbestos.

(1) The manufacture of cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, or other textile materials.

(2) The manufacture of cement products.

(3) The manufacture of fireproofing and insulating materials.

(4) The manufacture of friction products.

(5) The manufacture of paper, millboard, and felt.

(6) The manufacture of floor tile.

(7) The manufacture of paints, coatings, caulks, adhesives, and sealants.

(8) The manufacture of plastics and rubber materials.

(9) The manufacture of chlorine utilizing asbestos diaphragm technology.

(10) The manufacture of shotgun shell wads.

(11) The manufacture of asphalt concrete.

(b) ***Standard.*** Each owner or operator of any of the manufacturing operations to which this section applies shall either:

(1) Discharge no visible emissions to the outside air from these operations or from any building or structure in which they are conducted or from any other fugitive sources; or

(2) Use the methods specified by § 61.152 to clean emissions from these operations containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Monitor each potential source of asbestos emissions from any part of the manufacturing facility, including air cleaning devices, process equipment, and buildings housing material processing and handling equipment, at least once each day during daylight hours for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.

(4) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunctions, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(5) Maintain records of the results of visible emission monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following.

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of fabric filters, including presence of any tears, holes and abrasions.

(iv) Presence of dust deposits on clean side of fabric filters.

(v) Brief description of corrective actions taken, including date and time.

(vi) Daily hours of operation for each air cleaning device.

(6) Furnish upon request, and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(7) Retain a copy of all monitoring and inspection records for at least 2 years.

(8) Submit semiannually a copy of the visible emission monitoring records to the Administrator if visible emission occurred during the report period. Semiannual reports shall be postmarked by the 30th day following the end of the six-month period.

[49 FR 13661, Apr. 5, 1984, as amended at 55 FR 48419, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991; 64 FR 7467, Feb. 12, 1999]

§ 61.145 Standard for demolition and renovation.

(a) ***Applicability.*** To determine which requirements of paragraphs (a), (b), and (c) of this section apply to the owner or operator of a demolition or renovation activity and prior to the commencement of the demolition or renovation, thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable ACM. The requirements of paragraphs (b) and (c) of this section apply to each owner or operator of a demolition or renovation activity, including the removal of RACM as follows:

(1) In a facility being demolished, all the requirements of paragraphs (b) and (c) of this section apply, except as provided in paragraph (a)(3) of this section, if the combined amount of RACM is

(i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

(ii) At least 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously.

(2) In a facility being demolished, only the notification requirements of paragraphs (b)(1), (2), (3)(i) and (iv), and (4)(i) through (vii) and (4)(ix) and (xvi) of this section apply, if the combined amount of RACM is

(i) Less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components, and

(ii) Less than one cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously or there is no asbestos.

(3) If the facility is being demolished under an order of a State or local government agency, issued because the facility is structurally unsound and in danger of imminent collapse, only the requirements of paragraphs (b)(1), (b)(2), (b)(3)(iii), (b)(4) (except (b)(4)(viii)), (b)(5), and (c)(4) through (c)(9) of this section apply.

(4) In a facility being renovated, including any individual nonscheduled renovation operation, all the requirements of paragraphs (b) and (c) of this section apply if the combined amount of RACM to be stripped, removed, dislodged, cut, drilled, or similarly disturbed is

(i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

(ii) At least 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously.

(iii) To determine whether paragraph (a)(4) of this section applies to planned renovation operations involving individual nonscheduled operations, predict the combined additive amount of RACM to be removed or stripped during a calendar year of January 1 through December 31.

(iv) To determine whether paragraph (a)(4) of this section applies to emergency renovation operations, estimate the combined amount of RACM to be removed or stripped as a result of the sudden, unexpected event that necessitated the renovation.

(5) Owners or operators of demolition and renovation operations are exempt from the requirements of §§ 61.05(a), 61.07, and 61.09.

(b) ***Notification requirements.*** Each owner or operator of a demolition or renovation activity to which this section applies shall:

(1) Provide the Administrator with written notice of intention to demolish or renovate. Delivery of the notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(2) Update notice, as necessary, including when the amount of asbestos affected changes by at least 20 percent.

(3) Postmark or deliver the notice as follows:

(i) At least 10 working days before asbestos stripping or removal work or any other activity begins (such as site preparation that would break up, dislodge or similarly disturb asbestos material), if the operation is described in paragraphs (a) (1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section. If the operation is as described in paragraph (a)(2) of this section, notification is required 10 working days before demolition begins.

(ii) At least 10 working days before the end of the calendar year preceding the year for which notice is being given for renovations described in paragraph (a)(4)(iii) of this section.

(iii) As early as possible before, but not later than, the following working day if the operation is a demolition ordered according to paragraph (a)(3) of this section or, if the operation is a renovation described in paragraph (a)(4)(iv) of this section.

(iv) For asbestos stripping or removal work in a demolition or renovation operation, described in paragraphs (a) (1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section, and for a demolition described in paragraph (a)(2) of this section, that will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator as follows:

(A) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin after the date contained in the notice,

(*1*) Notify the Administrator of the new start date by telephone as soon as possible before the original start date, and

(*2*) Provide the Administrator with a written notice of the new start date as soon as possible before, and no later than, the original start date. Delivery of the updated notice by the U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(B) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin on a date earlier than the original start date,

(*1*) Provide the Administrator with a written notice of the new start date at least 10 working days before asbestos stripping or removal work begins.

(*2*) For demolitions covered by paragraph (a)(2) of this section, provide the Administrator written notice of a new start date at least 10 working days before commencement of demolition. Delivery of updated notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(C) In no event shall an operation covered by this paragraph begin on a date other than the date contained in the written notice of the new start date.

(4) Include the following in the notice:

(i) An indication of whether the notice is the original or a revised notification.

(ii) Name, address, and telephone number of both the facility owner and operator and the asbestos removal contractor owner or operator.

(iii) Type of operation: demolition or renovation.

(iv) Description of the facility or affected part of the facility including the size (square meters [square feet] and number of floors), age, and present and prior use of the facility.

(v) Procedure, including analytical methods, employed to detect the presence of RACM and Category I and Category II nonfriable ACM.

(vi) Estimate of the approximate amount of RACM to be removed from the facility in terms of length of pipe in linear meters (linear feet), surface area in square meters (square feet) on other facility components, or volume in cubic meters (cubic feet) if off the facility components. Also, estimate the approximate amount of Category I and Category II nonfriable ACM in the affected part of the facility that will not be removed before demolition.

(vii) Location and street address (including building number or name and floor or room number, if appropriate), city, county, and state, of the facility being demolished or renovated.

(viii) Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition or renovation; planned renovation operations involving individual nonscheduled operations shall only include the beginning and ending dates of the report period as described in paragraph (a)(4)(iii) of this section.

(ix) Scheduled starting and completion dates of demolition or renovation.

(x) Description of planned demolition or renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components.

(xi) Description of work practices and engineering controls to be used to comply with the requirements of this subpart, including asbestos removal and waste-handling emission control procedures.

(xii) Name and location of the waste disposal site where the asbestos-containing waste material will be deposited.

(xiii) A certification that at least one person trained as required by paragraph (c)(8) of this section will supervise the stripping and removal described by this notification. This requirement shall become effective 1 year after promulgation of this regulation.

(xiv) For facilities described in paragraph (a)(3) of this section, the name, title, and authority of the State or local government representative who has ordered the demolition, the date that the order was issued, and the date on which the demolition was ordered to begin. A copy of the order shall be attached to the notification.

(xv) For emergency renovations described in paragraph (a)(4)(iv) of this section, the date and hour that the emergency occurred, a description of the sudden, unexpected event, and an explanation of how the event caused an unsafe condition, or would cause equipment damage or an unreasonable financial burden.

(xvi) Description of procedures to be followed in the event that unexpected RACM is found or Category II nonfriable ACM becomes crumbled, pulverized, or reduced to powder.

(xvii) Name, address, and telephone number of the waste transporter.

(5) The information required in paragraph (b)(4) of this section must be reported using a form similiar to that shown in Figure 3.

(c) ***Procedures for asbestos emission control.*** Each owner or operator of a demolition or renovation activity to whom this paragraph applies, according to paragraph (a) of this section, shall comply with the following procedures:

(1) Remove all RACM from a facility being demolished or renovated before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal. RACM need not be removed before demolition if:

(i) It is Category I nonfriable ACM that is not in poor condition and is not friable.

(ii) It is on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition; or

(iii) It was not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, the material cannot be safely removed. If not removed for safety reasons, the exposed RACM and any asbestos-contaminated debris must be treated as asbestos-containing waste material and adequately wet at all times until disposed of.

(iv) They are Category II nonfriable ACM and the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition.

(2) When a facility component that contains, is covered with, or is coated with RACM is being taken out of the facility as a unit or in sections:

(i) Adequately wet all RACM exposed during cutting or disjoining operations; and

(ii) Carefully lower each unit or section to the floor and to ground level, not dropping, throwing, sliding, or otherwise damaging or disturbing the RACM.

(3) When RACM is stripped from a facility component while it remains in place in the facility, adequately wet the RACM during the stripping operation.

(i) In renovation operations, wetting is not required if:

(A) The owner or operator has obtained prior written approval from the Administrator based on a written application that wetting to comply with this paragraph would unavoidably damage equipment or present a safety hazard; and

(B) The owner or operator uses of the following emission control methods:

(*1*) A local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping and removal of the asbestos materials. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.152.

(*2*) A glove-bag system designed and operated to contain the particulate asbestos material produced by the stripping of the asbestos materials.

(*3*) Leak-tight wrapping to contain all RACM prior to dismantlement.

(ii) In renovation operations where wetting would result in equipment damage or a safety hazard, and the methods allowed in paragraph (c)(3)(i) of this section cannot be used, another method may be used after obtaining written approval from the Administrator based upon a determination that it is equivalent to wetting in controlling emissions or to the methods allowed in paragraph (c)(3)(i) of this section.

(iii) A copy of the Administrator's written approval shall be kept at the worksite and made available for inspection.

(4) After a facility component covered with, coated with, or containing RACM has been taken out of the facility as a unit or in sections pursuant to paragraph (c)(2) of this section, it shall be stripped or contained in leak-tight wrapping, except as described in paragraph (c)(5) of this section. If stripped, either:

(i) Adequately wet the RACM during stripping; or

(ii) Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.152.

(5) For large facility components such as reactor vessels, large tanks, and steam generators, but not beams (which must be handled in accordance with paragraphs (c)(2), (3), and (4) of this section), the RACM is not required to be stripped if the following requirements are met:

(i) The component is removed, transported, stored, disposed of, or reused without disturbing or damaging the RACM.

(ii) The component is encased in a leak-tight wrapping.

(iii) The leak-tight wrapping is labeled according to § 61.149(d)(1)(i), (ii), and (iii) during all loading and unloading operations and during storage.

(6) For all RACM, including material that has been removed or stripped:

(i) Adequately wet the material and ensure that it remains wet until collected and contained or treated in preparation for disposal in accordance with § 61.150; and

(ii) Carefully lower the material to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material.

(iii) Transport the material to the ground via leak-tight chutes or containers if it has been removed or stripped more than 50 feet above ground level and was not removed as units or in sections.

(iv) RACM contained in leak-tight wrapping that has been removed in accordance with paragraphs (c)(4) and (c)(3)(i)(B)(*3*) of this section need not be wetted.

(7) When the temperature at the point of wetting is below 0 °C (32 °F):

(i) The owner or operator need not comply with paragraph (c)(2)(i) and the wetting provisions of paragraph (c)(3) of this section.

(ii) The owner or operator shall remove facility components containing, coated with, or covered with RACM as units or in sections to the maximum extent possible.

(iii) During periods when wetting operations are suspended due to freezing temperatures, the owner or operator must record the temperature in the area containing the facility components at the beginning, middle, and end of each workday and keep daily temperature records available for inspection by the Administrator during normal business hours at the demolition or renovation site. The owner or operator shall retain the temperature records for at least 2 years.

(8) Effective 1 year after promulgation of this regulation, no RACM shall be stripped, removed, or otherwise handled or disturbed at a facility regulated by this section unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, trained in the provisions of this regulation and the means of complying with them, is present. Every 2 years, the trained on-site individual shall receive refresher training in the provisions of this regulation. The required training shall include as a minimum: applicability; notifications; material identification; control procedures for removals including, at least, wetting, local exhaust ventilation, negative pressure enclosures, glove-bag procedures, and High Efficiency Particulate Air (HEPA) filters; waste disposal work practices; reporting and recordkeeping; and asbestos hazards and worker protection. Evidence that the required training has been completed shall be posted and made available for inspection by the Administrator at the demolition or renovation site.

(9) For facilities described in paragraph (a)(3) of this section, adequately wet the portion of the facility that contains RACM during the wrecking operation.

(10) If a facility is demolished by intentional burning, all RACM including Category I and Category II nonfriable ACM must be removed in accordance with the NESHAP before burning.

NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. TYPE OF NOTIFICATION (O=Original R=Revised C=Cancelled):

II. FACILITY INFORMATION (Identify owner, removal contractor, and other operator)

OWNER NAME:

Address:

City: | State: | Zip:

Contact: | Tel:

REMOVAL CONTRACTOR:

Address:

City: | State: | Zip:

Contact: | Tel:

OTHER OPERATOR:

Address:

City: | State: | Zip:

Contact: | Tel:

III. TYPE OF OPERATION (D=Demo O=Ordered Demo R=Renovation E=Emer.Renovation):

IV. IS ASBESTOS PRESENT? (Yes/No)

V. FACILITY DESCRIPTION (Include building name, number and floor or room number)

Bldg Name:

Address:

City: | State: | County:

Site Location:

Building Size: | # of Floors: | Age in Years:

Present Use: | Prior Use:

VI. PROCEDURE, INCLUDING ANALYTICAL METHOD, IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL:

VII. APPROXIMATE AMOUNT OF ASBESTOS, INCLUDING: 1. Regulated ACM to be removed 2. Category I ACM Not Removed 3. Category II ACM Not Removed	RACM To Be Removed	Nonfriable Asbestos Material Not To Be Removed		Indicate Unit of Measurement Below	
		Cat I	Cat II	UNIT	
Pipes				LnFt:	Ln m:
Surface Area				SqFt:	Sq m:
Vol RACM Off Facility Component				CuFt:	Cu m:

VIII. SCHEDULED DATES ASBESTOS REMOVAL (MM/DD/YY) Start: Complete:

IX. SCHEDULED DATES DEMO/RENOVATION (MM/DD/YY) Start: Complete:

Continued on page two

Figure 3. Notification of Demolition and Renovation

NOTIFICATION OF DEMOLITION AND RENOVATION (continued)

X. DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, AND METHOD(S) TO BE USED:		
XI. DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE DEMOLITION AND RENOVATION SITE:		
XII. WASTE TRANSPORTER #1		
Name:		
Address		
City:	State:	Zip:
Contact Person:		Telephone:
WASTE TRANSPORTER #2		
Name:		
Address:		
City:	State:	Zip:
Contact Person:		Telephone:
XIII. WASTE DISPOSAL SITE		
Name:		
Location:		
City:	State:	Zip:
Telephone:		
XIV. IF DEMOLITION ORDERED BY A GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW:		
Name:	Title:	
Authority:		
Date of Order (MM/DD/YY):	Date Ordered to Begin (MM/DD/YY):	
XV. FOR EMERGENCY RENOVATIONS		
Date and Hour of Emergency (MM/DD/YY):		
Description of the Sudden, Unexpected Event:		
Explanation of how the event caused unsafe conditions or would cause equipment damage or an unreasonable financial burden:		
XVI. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER.		
XVI. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THIS REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION OR RENOVATION AND EVIDENC THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS. (Required 1 year after promulgation)		
(Signature of Owner/Operator)		(Date)
XVII. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.		
(Signature of Owner/Operator)		(Date)

Figure 3. Notification of Demolition and Renovation

[55 FR 48419, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

§ 61.146 Standard for spraying.

The owner or operator of an operation in which asbestos-containing materials are spray applied shall comply with the following requirements:

(a) For spray-on application on buildings, structures, pipes, and conduits, do not use material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy, except as provided in paragraph (c) of this section.

(b) For spray-on application of materials that contain more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy, on equipment and machinery, except as provided in paragraph (c) of this section:

(1) Notify the Administrator at least 20 days before beginning the spraying operation. Include the following information in the notice:

(i) Name and address of owner or operator.

(ii) Location of spraying operation.

(iii) Procedures to be followed to meet the requirements of this paragraph.

(2) Discharge no visible emissions to the outside air from spray-on application of the asbestos-containing material or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(c) The requirements of paragraphs (a) and (b) of this section do not apply to the spray-on application of materials where the asbestos fibers in the materials are encapsulated with a bituminous or resinous binder during spraying and the materials are not friable after drying.

(d) Owners or operators of sources subject to this paragraph are exempt from the requirements of §§ 61.05(a), 61.07 and 61.09.

[49 FR 13661, Apr. 5, 1984. Redesignated and amended at 55 FR 48424, Nov. 20, 1990; 60 FR 31920, June 19, 1995]

§ 61.147 Standard for fabricating.

(a) ***Applicability.*** This section applies to the following fabricating operations using commercial asbestos:

(1) The fabrication of cement building products.

(2) The fabrication of friction products, except those operations that primarily install asbestos friction materials on motor vehicles.

(3) The fabrication of cement or silicate board for ventilation hoods; ovens; electrical panels; laboratory furniture, bulkheads, partitions, and ceilings for marine construction; and flow control devices for the molten metal industry.

(b) ***Standard.*** Each owner or operator of any of the fabricating operations to which this section applies shall either:

(1) Discharge no visible emissions to the outside air from any of the operations or from any building or structure in which they are conducted or from any other fugitive sources; or

(2) Use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Monitor each potential source of asbestos emissions from any part of the fabricating facility, including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, at least once each day, during daylight hours, for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.

(4) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunctions, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(5) Maintain records of the results of visible emission monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following:

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of fabric filters, including presence of any tears, holes, and abrasions.

(iv) Presence of dust deposits on clean side of fabric filters.

(v) Brief description of corrective actions taken, including date and time.

(vi) Daily hours of operation for each air cleaning device.

(6) Furnish upon request and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(7) Retain a copy of all monitoring and inspection records for at least 2 years.

(8) Submit semiannually a copy of the visible emission monitoring records to the Administrator if visible emission occurred during the report period. Semiannual reports shall be postmarked by the 30th day following the end of the six-month period.

[49 FR 13661, Apr. 5, 1984. Redesignated and amended at 55 FR 48424, Nov. 20, 1991; 64 FR 7467, Feb. 12, 1999]

§ 61.148 Standard for insulating materials.

No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this section do not apply to spray-applied insulating materials regulated under § 61.146.

[55 FR 48424, Nov. 20, 1990]

§ 61.149 Standard for waste disposal for asbestos mills.

Each owner or operator of any source covered under the provisions of § 61.142 shall:

(a) Deposit all asbestos-containing waste material at a waste disposal site operated in accordance with the provisions of § 61.154; and

(b) Discharge no visible emissions to the outside air from the transfer of control device asbestos waste to the tailings conveyor, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air. Dispose of the asbestos waste from control devices in accordance with § 61.150(a) or paragraph (c) of this section; and

(c) Discharge no visible emissions to the outside air during the collection, processing, packaging, or on-site transporting of any asbestos-containing waste material, or use one of the disposal methods specified in paragraphs (c) (1) or (2) of this section, as follows:

(1) Use a wetting agent as follows:

(i) Adequately mix all asbestos-containing waste material with a wetting agent recommended by the manufacturer of the agent to effectively wet dust and tailings, before depositing the material at a waste disposal site. Use the agent as recommended for the particular dust by the manufacturer of the agent.

(ii) Discharge no visible emissions to the outside air from the wetting operation or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(iii) Wetting may be suspended when the ambient temperature at the waste disposal site is less than −9.5 °C (15 °F), as determined by an appropriate measurement method with an accuracy of ±1 °C (±2 °F). During periods when wetting operations are suspended, the temperature must be recorded at least at hourly intervals, and records must be retained for at least 2 years in a form suitable for inspection.

(2) Use an alternative emission control and waste treatment method that has received prior written approval by the Administrator. To obtain approval for an alternative method, a written application must be submitted to the Administrator demonstrating that the following criteria are met:

(i) The alternative method will control asbestos emissions equivalent to currently required methods.

(ii) The suitability of the alternative method for the intended application.

(iii) The alternative method will not violate other regulations.

(iv) The alternative method will not result in increased water pollution, land pollution, or occupational hazards.

(d) When waste is transported by vehicle to a disposal site:

(1) Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of the waste so that the signs are visible. The markings must:

(i) Be displayed in such a manner and location that a person can easily read the legend.

(ii) Conform to the requirements for 51 cm × 36 cm (20 in × 14 in) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

> LEGEND
>
> DANGER
>
> ASBESTOS DUST HAZARD
>
> CANCER AND LUNG DISEASE HAZARD
>
> AUTHORIZED PERSONNEL ONLY
>
> NOTATION
>
> 2.5 CM (1 INCH) SANS SERIF, GOTHIC OR BLOCK
>
> 2.5 CM (1 INCH) SANS SERIF, GOTHIC OR BLOCK
>
> 1.9 CM (3/4 INCH) SANS SERIF, GOTHIC OR BLOCK
>
> 14 POINT GOTHIC

Spacing between any two lines must be a least equal to the height of the upper of the two lines.

(2) For off-site disposal, provide a copy of the waste shipment record, described in paragraph (e)(1) of this section, to the disposal site owner or operator at the same time as the asbestos-containing waste material is delivered to the disposal site.

(e) For all asbestos-containing waste material transported off the facility site:

(1) Maintain asbestos waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name and address of the local, State, or EPA Regional agency responsible for administering the asbestos NESHAP program.

(iii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(iv) The name and telephone number of the disposal site operator.

(v) The name and physical site location of the disposal site.

(vi) The date transported.

(vii) The name, address, and telephone number of the transporter(s).

(viii) A certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

(2) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.

(3) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter. Include in the report the following information:

(i) A copy of the waste shipment record for which a confirmation of delivery was not received, and

(ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.

(4) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.

(f) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.

Generator

1. Work site name and mailing address	Owner's name	Owner's telephone no.
2. Operator's name and address		Operator's telephone no.
3. Waste disposal site (WDS) name, mailing address, and physical site location		WDS phone no.
4. Name, and address of responsible agency		

5. Description of materials	6. Containers No. Type	7. Total quantity m^3 (yd^3)

8. Special handling instructions and additional information

9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Printed/typed name & title	Signature	Month Day Year

Transporter

10. Transporter 1 (Acknowledgment of receipt of materials)

Printed/typed name & title Address and telephone no.	Signature	Month Day Year

11. Transporter 2 (Acknowledgment of receipt of materials)

Printed/typed name & title Address and telephone no.	Signature	Month Day Year

Disposal Site

12. Discrepancy indication space

13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.

Printed/typed name & title	Signature	Month Day Year

(Continued)

Figure 4. Waste Shipment Record

INSTRUCTIONS

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.

2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.

3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.

4. Provide the name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.

5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is

   - Friable asbestos material
   - Nonfriable asbestos material

6. Enter the number of containers used to transport the asbestos materials listed in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):

   DM - Metal drums, barrels
   DP - Plastic drums, barrels
   BA - 6 mil plastic bags or wrapping

7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).

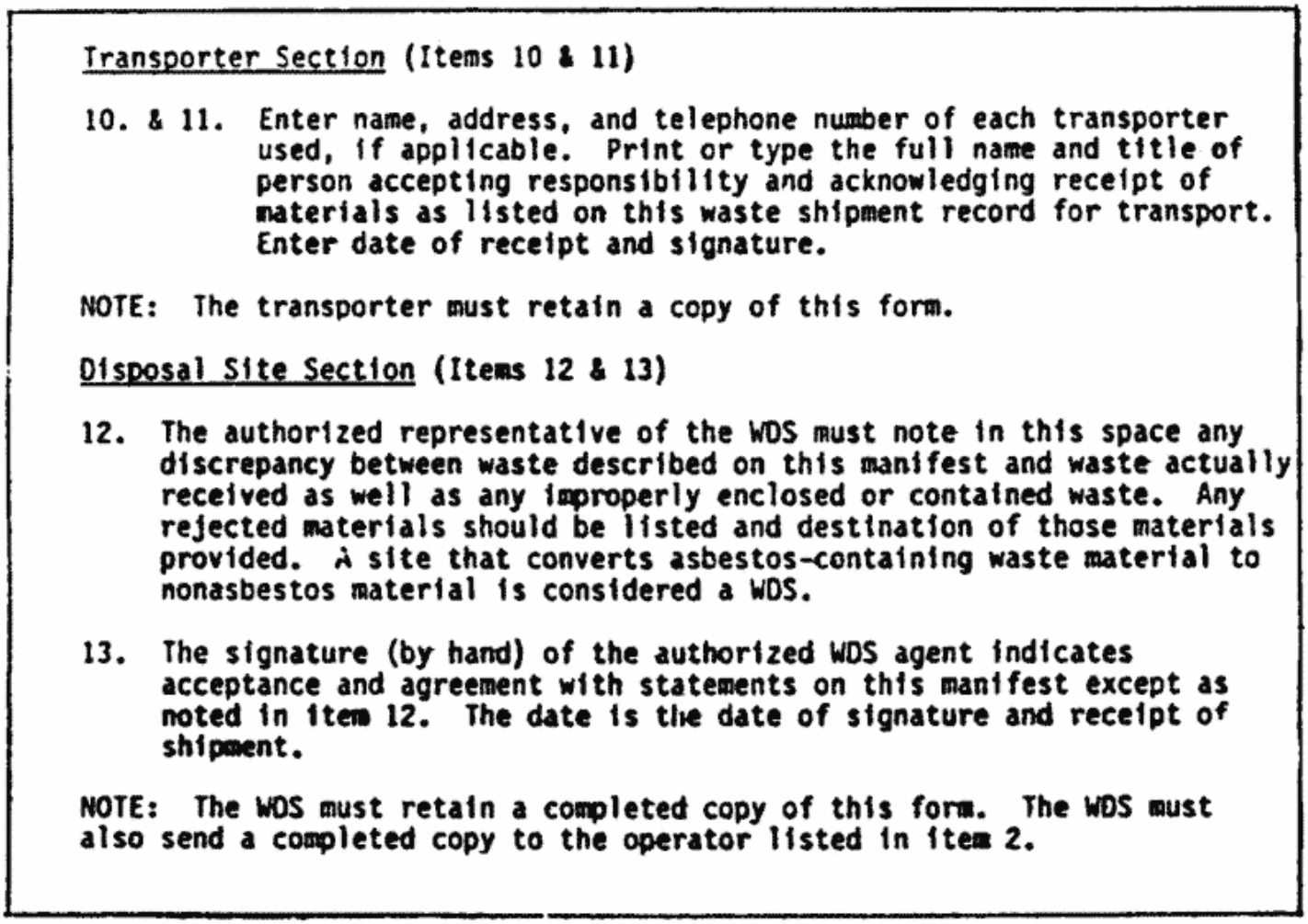
8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.

9. The authorized agent of the waste generator must read and then sign and date this certification. The date is the date of receipt by transporter.

NOTE: The waste generator must retain a copy of this form.

(continued)

Figure 4. Waste Shipment Record



Transporter Section (Items 10 & 11)

10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.

NOTE: The transporter must retain a copy of this form.

Disposal Site Section (Items 12 & 13)

12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.

13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.

NOTE: The WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.

Figure 4. Waste Shipment Record

§ 61.150 Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations.

Each owner or operator of any source covered under the provisions of §§ 61.144, 61.145, 61.146, and 61.147 shall comply with the following provisions:

(a) Discharge no visible emissions to the outside air during the collection, processing (including incineration), packaging, or transporting of any asbestos-containing waste material generated by the source, or use one of the emission control and waste treatment methods specified in paragraphs (a) (1) through (4) of this section.

(1) Adequately wet asbestos-containing waste material as follows:

(i) Mix control device asbestos waste to form a slurry; adequately wet other asbestos-containing waste material; and

(ii) Discharge no visible emissions to the outside air from collection, mixing, wetting, and handling operations, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air; and

(iii) After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; or, for materials that will not fit into containers without additional breaking, put materials into leak-tight wrapping; and

(iv) Label the containers or wrapped materials specified in paragraph (a)(1)(iii) of this section using warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(j)(4) or 1926.1101(k)(8). The labels shall be printed in letters of sufficient size and contrast so as to be readily visible and legible.

(v) For asbestos-containing waste material to be transported off the facility site, label containers or wrapped materials with the name of the waste generator and the location at which the waste was generated.

(2) Process asbestos-containing waste material into nonfriable forms as follows:

(i) Form all asbestos-containing waste material into nonfriable pellets or other shapes;

(ii) Discharge no visible emissions to the outside air from collection and processing operations, including incineration, or use the method specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) For facilities demolished where the RACM is not removed prior to demolition according to §§ 61.145(c)(1) (i), (ii), (iii), and (iv) or for facilities demolished according to § 61.145(c)(9), adequately wet asbestos-containing waste material at all times after demolition and keep wet during handling and loading for transport to a disposal site. Asbestos-containing waste materials covered by this paragraph do not have to be sealed in leak-tight containers or wrapping but may be transported and disposed of in bulk.

(4) Use an alternative emission control and waste treatment method that has received prior approval by the Administrator according to the procedure described in § 61.149(c)(2).

(5) As applied to demolition and renovation, the requirements of paragraph (a) of this section do not apply to Category I nonfriable ACM waste and Category II nonfriable ACM waste that did not become crumbled, pulverized, or reduced to powder.

(b) All asbestos-containing waste material shall be deposited as soon as is practical by the waste generator at:

(1) A waste disposal site operated in accordance with the provisions of § 61.154, or

(2) An EPA-approved site that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material according to the provisions of § 61.155.

(3) The requirements of paragraph (b) of this section do not apply to Category I nonfriable ACM that is not RACM.

(c) Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that the signs are visible. The markings must conform to the requirements of §§ 61.149(d)(1) (i), (ii), and (iii).

(d) For all asbestos-containing waste material transported off the facility site:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.

(iii) The approximate quantity in cubic meters (cubic yards).

(iv) The name and telephone number of the disposal site operator.

(v) The name and physical site location of the disposal site.

(vi) The date transported.

(vii) The name, address, and telephone number of the transporter(s).

(viii) A certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

(2) Provide a copy of the waste shipment record, described in paragraph (d)(1) of this section, to the disposal site owners or operators at the same time as the asbestos-containing waste material is delivered to the disposal site.

(3) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.

(4) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter. Include in the report the following information:

(i) A copy of the waste shipment record for which a confirmation of delivery was not received, and

(ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.

(5) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.

(e) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.

[55 FR 48429, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991, as amended at 68 FR 54793, Sept. 18, 2003]

§ 61.151 Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.

Each owner or operator of any inactive waste disposal site that was operated by sources covered under § 61.142, 61.144, or 61.147 and received deposits of asbestos-containing waste material generated by the sources, shall:

(a) Comply with one of the following:

(1) Either discharge no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph; or

(2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, nonasbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or

(3) Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted nonasbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste; or

(4) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in paragraphs (a) (1), (2), and (3) of this section. Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Administrator to use other equally effective dust suppression agents. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(b) Unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with paragraph (a)(2) or (a)(3) of this section.

(1) Display warning signs at all entrances and at intervals of 100 m (328 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited. The warning signs must:

(i) Be posted in such a manner and location that a person can easily read the legend; and

(ii) Conform to the requirements for 51 cm × 36 cm (20" × 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust	1.9 cm ($^{3}/_{4}$ inch) Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) Fence the perimeter of the site in a manner adequate to deter access by the general public.

(3) When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Administrator to determine whether a fence or a natural barrier adequately deters access by the general public.

(c) The owner or operator may use an alternative control method that has received prior approval of the Administrator rather than comply with the requirements of paragraph (a) or (b) of this section.

(d) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under this section, and follow the procedures specified in the notification. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

(e) Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that:

(1) The land has been used for the disposal of asbestos-containing waste material;

(2) The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in § 61.154(f) have been filed with the Administrator; and

(3) The site is subject to 40 CFR part 61, subpart M.

[49 FR 13661, Apr. 5, 1984, as amended at 53 FR 36972, Sept. 23, 1988. Redesignated and amended at 55 FR 48429, Nov. 20, 1990]

§ 61.152 Air-cleaning.

(a) The owner or operator who uses air cleaning, as specified in §§ 61.142(a), 61.144(b)(2), 61.145(c)(3)(i)(B)(*1*), 61.145(c)(4)(ii), 61.145(c)(11)(i), 61.146(b)(2), 61.147(b)(2), 61.149(b), 61.149(c)(1)(ii), 61.150(a)(1)(ii), 61.150(a)(2)(ii), and 61.155(e) shall:

(1) Use fabric filter collection devices, except as noted in paragraph (b) of this section, doing all of the following:

(i) Ensuring that the airflow permeability, as determined by ASTM Method D737-75, does not exceed 9 $m^3/min/m^2$ (30 $ft^3/min/ft^2$) for woven fabrics or $11^3/min/m^2$(35 $ft^3/min/ft^2$) for felted fabrics, except that 12 $m^3/min/m^2$ (40 ft^3min/ft^2) for woven and 14 $m^3/min/m^2$ (45 ft^3min/ft^2) for felted fabrics is allowed for filtering air from asbestos ore dryers; and

(ii) Ensuring that felted fabric weighs at least 475 grams per square meter (14 ounces per square yard) and is at least 1.6 millimeters (one-sixteenth inch) thick throughout; and

(iii) Avoiding the use of synthetic fabrics that contain fill yarn other than that which is spun.

(2) Properly install, use, operate, and maintain all air-cleaning equipment authorized by this section. Bypass devices may be used only during upset or emergency conditions and then only for so long as it takes to shut down the operation generating the particulate asbestos material.

(3) For fabric filter collection devices installed after January 10, 1989, provide for easy inspection for faulty bags.

(b) There are the following exceptions to paragraph (a)(1):

(1) After January 10, 1989, if the use of fabric creates a fire or explosion hazard, or the Administrator determines that a fabric filter is not feasible, the Administrator may authorize as a substitute the use of wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals (40 inches water gage pressure).

(2) Use a HEPA filter that is certified to be at least 99.97 percent efficient for 0.3 micron particles.

(3) The Administrator may authorize the use of filtering equipment other than described in paragraphs (a)(1) and (b)(1) and (2) of this section if the owner or operator demonstrates to the Administrator's satisfaction that it is equivalent to the described equipment in filtering particulate asbestos material.

[49 FR 13661, Apr. 5, 1984; 49 FR 25453, June 21, 1984, as amended at 51 FR 8199, Mar. 10, 1986. Redesignated and amended at 55 FR 48430, Nov. 20, 1990]

§ 61.153 Reporting.

(a) Any new source to which this subpart applies (with the exception of sources subject to §§ 61.143, 61.145, 61.146, and 61.148), which has an initial startup date preceding the effective date of this revision, shall provide the following information to the Administrator postmarked or delivered within 90 days of the effective date. In the case of a new source that does not have an initial startup date preceding the effective date, the information shall be provided, postmarked or delivered, within 90 days of the initial startup date. Any owner or operator of an existing source shall provide the following information to the Administrator within 90 days of the effective date of this subpart unless the owner or operator of the existing source has previously provided this information to the Administrator. Any changes in the information provided by any existing source shall be provided to the Administrator, postmarked or delivered, within 30 days after the change.

(1) A description of the emission control equipment used for each process; and

(i) If the fabric device uses a woven fabric, the airflow permeability in $m^3/min/m^2$ and; if the fabric is synthetic, whether the fill yarn is spun or not spun; and

(ii) If the fabric filter device uses a felted fabric, the density in g/m^2, the minimum thickness in inches, and the airflow permeability in $m^3/min/m^2$.

(2) If a fabric filter device is used to control emissions,

(i) The airflow permeability in $m^3/min/m^2$ ($ft^3/min/ft^2$) if the fabric filter device uses a woven fabric, and, if the fabric is synthetic, whether the fill yarn is spun or not spun; and

(ii) If the fabric filter device uses a felted fabric, the density in g/m^2 (oz/yd^2), the minimum thickness in millimeters (inches), and the airflow permeability in m^3/min/m^2 (ft^3/min/ft^2).

(3) If a HEPA filter is used to control emissions, the certified efficiency.

(4) For sources subject to §§ 61.149 and 61.150:

(i) A brief description of each process that generates asbestos-containing waste material; and

(ii) The average volume of asbestos-containing waste material disposed of, measured in m^3/day (yd^3/day); and

(iii) The emission control methods used in all stages of waste disposal; and

(iv) The type of disposal site or incineration site used for ultimate disposal, the name of the site operator, and the name and location of the disposal site.

(5) For sources subject to §§ 61.151 and 61.154:

(i) A brief description of the site; and

(ii) The method or methods used to comply with the standard, or alternative procedures to be used.

(b) The information required by paragraph (a) of this section must accompany the information required by § 61.10. Active waste disposal sites subject to § 61.154 shall also comply with this provision. Roadways, demolition and renovation, spraying, and insulating materials are exempted from the requirements of § 61.10(a). The information described in this section must be reported using the format of appendix A of this part as a guide.

(Sec. 114. Clean Air Act as amended (42 U.S.C. 7414))

[49 FR 13661, Apr. 5, 1984. Redesignated and amended at 55 FR 48430, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

§ 61.154 Standard for active waste disposal sites.

Each owner or operator of an active waste disposal site that receives asbestos-containing waste material from a source covered under § 61.149, 61.150, or 61.155 shall meet the requirements of this section:

(a) Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of paragraph (c) or (d) of this section must be met.

(b) Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the requirements of paragraph (c)(1) of this section must be met.

(1) Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:

(i) Be posted in such a manner and location that a person can easily read the legend; and

(ii) Conform to the requirements of 51 cm × 36 cm (20" × 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block.
Do Not Create Dust	1.9 cm ($^3/_4$ inch) Sans Serif, Gothic or Block.
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

(3) Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access by the general public.

(c) Rather than meet the no visible emission requirement of paragraph (a) of this section, at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall:

(1) Be covered with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, or

(2) Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(d) Rather than meet the no visible emission requirement of paragraph (a) of this section, use an alternative emissions control method that has received prior written approval by the Administrator according to the procedures described in § 61.149(c)(2).

(e) For all asbestos-containing waste material received, the owner or operator of the active waste disposal site shall:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name, address, and telephone number of the transporter(s).

(iii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(iv) The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report.

(v) The date of the receipt.

(2) As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator.

(3) Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.

(4) Retain a copy of all records and reports required by this paragraph for at least 2 years.

(f) Maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area.

(g) Upon closure, comply with all the provisions of § 61.151.

(h) Submit to the Administrator, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities.

(i) Furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this section.

(j) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

(Secs. 112 and 301(a) of the Clean Air Act as amended (42 U.S.C. 7412, 7601(a))

[49 FR 13661, Apr. 5, 1990. Redesignated and amended at 55 FR 48431, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

§ 61.155 Standard for operations that convert asbestos-containing waste material into nonasbestos (asbestos-free) material.

Each owner or operator of an operation that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material shall:

(a) Obtain the prior written approval of the Administrator to construct the facility. To obtain approval, the owner or operator shall provide the Administrator with the following information:

(1) Application to construct pursuant to § 61.07.

(2) In addition to the information requirements of § 61.07(b)(3), a

(i) Description of waste feed handling and temporary storage.

(ii) Description of process operating conditions.

(iii) Description of the handling and temporary storage of the end product.

(iv) Description of the protocol to be followed when analyzing output materials by transmission electron microscopy.

(3) Performance test protocol, including provisions for obtaining information required under paragraph (b) of this section.

(4) The Administrator may require that a demonstration of the process be performed prior to approval of the application to construct.

(b) Conduct a start-up performance test. Test results shall include:

(1) A detailed description of the types and quantities of nonasbestos material, RACM, and asbestos-containing waste material processed, *e.g.,* asbestos cement products, friable asbestos insulation, plaster, wood, plastic, wire, etc. Test feed is to include the full range of materials that will be encountered in actual operation of the process.

(2) Results of analyses, using polarized light microscopy, that document the asbestos content of the wastes processed.

(3) Results of analyses, using transmission electron microscopy, that document that the output materials are free of asbestos. Samples for analysis are to be collected as 8-hour composite samples (one 200-gram (7-ounce) sample per hour), beginning with the initial introduction of RACM or asbestos-containing waste material and continuing until the end of the performance test.

(4) A description of operating parameters, such as temperature and residence time, defining the full range over which the process is expected to operate to produce nonasbestos (asbestos-free) materials. Specify the limits for each operating parameter within which the process will produce nonasbestos (asbestos-free) materials.

(5) The length of the test.

(c) During the initial 90 days of operation,

(1) Continuously monitor and log the operating parameters identified during start-up performance tests that are intended to ensure the production of nonasbestos (asbestos-free) output material.

(2) Monitor input materials to ensure that they are consistent with the test feed materials described during start-up performance tests in paragraph (b)(1) of this section.

(3) Collect and analyze samples, taken as 10-day composite samples (one 200-gram (7-ounce) sample collected every 8 hours of operation) of all output material for the presence of asbestos. Composite samples may be for fewer than 10 days. Transmission electron microscopy (TEM) shall be used to analyze the output material for the presence of asbestos. During the initial 90-day period, all output materials must be stored on-site until analysis shows the material to be asbestos-free or disposed of as asbestos-containing waste material according to § 61.150.

(d) After the initial 90 days of operation,

(1) Continuously monitor and record the operating parameters identified during start-up performance testing and any subsequent performance testing. Any output produced during a period of deviation from the range of operating conditions established to ensure the production of nonasbestos (asbestos-free) output materials shall be:

(i) Disposed of as asbestos-containing waste material according to § 61.150, or

(ii) Recycled as waste feed during process operation within the established range of operating conditions, or

(iii) Stored temporarily on-site in a leak-tight container until analyzed for asbestos content. Any product material that is not asbestos-free shall be either disposed of as asbestos-containing waste material or recycled as waste feed to the process.

(2) Collect and analyze monthly composite samples (one 200-gram (7-ounce) sample collected every 8 hours of operation) of the output material. Transmission electron microscopy shall be used to analyze the output material for the presence of asbestos.

(e) Discharge no visible emissions to the outside air from any part of the operation, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(f) Maintain records on-site and include the following information:

(1) Results of start-up performance testing and all subsequent performance testing, including operating parameters, feed characteristic, and analyses of output materials.

(2) Results of the composite analyses required during the initial 90 days of operation under § 61.155(c).

(3) Results of the monthly composite analyses required under § 61.155(d).

(4) Results of continuous monitoring and logs of process operating parameters required under § 61.155 (c) and (d).

(5) The information on waste shipments received as required in § 61.154(e).

(6) For output materials where no analyses were performed to determine the presence of asbestos, record the name and location of the purchaser or disposal site to which the output materials were sold or deposited, and the date of sale or disposal.

(7) Retain records required by paragraph (f) of this section for at least 2 years.

(g) Submit the following reports to the Administrator:

(1) A report for each analysis of product composite samples performed during the initial 90 days of operation.

(2) A quarterly report, including the following information concerning activities during each consecutive 3-month period:

(i) Results of analyses of monthly product composite samples.

(ii) A description of any deviation from the operating parameters established during performance testing, the duration of the deviation, and steps taken to correct the deviation.

(iii) Disposition of any product produced during a period of deviation, including whether it was recycled, disposed of as asbestos-containing waste material, or stored temporarily on-site until analyzed for asbestos content.

(iv) The information on waste disposal activities as required in § 61.154(f).

(h) Nonasbestos (asbestos-free) output material is not subject to any of the provisions of this subpart. Output materials in which asbestos is detected, or output materials produced when the operating parameters deviated from those established during the start-up performance testing, unless shown by TEM analysis to be asbestos-free, shall be considered to be asbestos-containing waste and shall be handled and disposed of according to §§ 61.150 and 61.154 or reprocessed while all of the established operating parameters are being met.

[55 FR 48431, Nov. 20, 1990]

§ 61.156 Cross-reference to other asbestos regulations.

In addition to this subpart, the regulations referenced in Table 1 also apply to asbestos and may be applicable to those sources specified in §§ 61.142 through 61.151, 61.154, and 61.155 of this subpart. These cross-references are presented for the reader's information and to promote compliance with the cited regulations.

TABLE 1—CROSS-REFERENCE TO OTHER ASBESTOS REGULATIONS

Agency	CFR citation	Comment
EPA	40 CFR part 763, subpart E	Requires schools to inspect for asbestos and implement response actions and submit asbestos management plans to States. Specifies use of accredited inspectors, air sampling methods, and waste disposal procedures.
	40 CFR part 427	Effluent standards for asbestos manufacturing source categories.
	40 CFR part 763, subpart G	Protects public employees performing asbestos abatement work in States not covered by OSHA asbestos standard.

Agency	CFR citation	Comment
OSHA	29 CFR 1910.1001	Worker protection measures-engineering controls, worker training, labeling, respiratory protection, bagging of waste, permissible exposure level.
	29 CFR 1926.1101	Worker protection measures for all construction work involving asbestos, including demolition and renovation-work practices, worker training, bagging of waste, permissible exposure level.
MSHA	30 CFR part 56, subpart D	Specifies exposure limits, engineering controls, and respiratory protection measures for workers in surface mines.
	30 CFR part 57, subpart D	Specifies exposure limits, engineering controls, and respiratory protection measures for workers in underground mines.
DOT	49 CFR parts 171 and 172	Regulates the transportation of asbestos-containing waste material. Requires waste containment and shipping papers.

[55 FR 48432, Nov. 20, 1990, as amended at 60 FR 31920, June 19, 1995; 68 FR 54793, Sept. 18, 2003; 69 FR 43324, July 20, 2004]

§ 61.157 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities that will not be delegated to States:

(1) Section 61.149(c)(2)

(2) Section 61.150(a)(4)

(3) Section 61.151(c)

(4) Section 61.152(b)(3)

(5) Section 61.154(d)

(6) Section 61.155(a).

[55 FR 48433, Nov. 20, 1990]

Appendix A to Subpart M of Part 61—Interpretive Rule Governing Roof Removal Operations

I. Applicability of the Asbestos NESHAP

1.1. Asbestos-containing material (ACM) is material containing more than one percent asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy. The NESHAP classifies ACM as either “friable” or “nonfriable”. Friable ACM is ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable ACM is ACM that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

1.2. Nonfriable ACM is further classified as either Category I ACM or Category II ACM. Category I ACM and Category II ACM are distinguished from each other by their potential to release fibers when damaged. Category I ACM includes asbestos-containing gaskets, packings, resilient floor coverings, resilient floor covering mastic, and asphalt roofing products containing more than one percent asbestos. Asphalt roofing products which may contain asbestos include built-up roofing; asphalt-containing single ply membrane systems; asphalt shingles; asphalt-containing underlayment felts; asphalt-containing roof coatings and mastics; and asphalt-containing base flashings. ACM roofing products that use other bituminous or resinous binders (such as coal tars or pitches) are also considered to be Category I ACM. Category II ACM includes all other nonfriable ACM, for example, asbestos-cement (A/C) shingles, A/C tiles, and transite boards or panels containing more than one percent asbestos. Generally speaking, Category II ACM is more likely to become friable when damaged than is Category I ACM. The applicability of the NESHAP to Category I and II ACM depends on: (1) the condition of the material at the time of demolition or renovation, (2) the nature of the operation to which the material will be subjected, (3) the amount of ACM involved.

1.3. Asbestos-containing material regulated under the NESHAP is referred to as “regulated asbestos-containing material” (RACM). RACM is defined in § 61.141 of the NESHAP and includes: (1) friable asbestos-containing material; (2) Category I nonfriable ACM that has become friable; (3) Category I nonfriable ACM that has been or will be sanded, ground, cut, or abraded; or (4) Category II nonfriable ACM that has already been or is likely to become crumbled, pulverized, or reduced to powder. If the coverage threshold for RACM is met or exceeded in a renovation or demolition operation, then all friable ACM in the operation, and in certain situations, nonfriable ACM in the operation, are subject to the NESHAP.

A. Threshold Amounts of Asbestos-Containing Roofing Material

1. A.1. The NESHAP does not cover roofing projects on single family homes or on residential buildings containing four or fewer dwelling units. 40 CFR 61.141. For other roofing renovation projects, if the total asbestos-containing roof area undergoing renovation is less than 160 ft^2, the NESHAP does not apply, regardless of the removal method to be used, the type of material (Category I or II), or its condition (friable versus nonfriable). 40 CFR 61.145(a)(4). However, EPA would recommend the use of methods that damage asbestos-containing roofing material as little as possible. EPA has determined that where a rotating blade (RB) roof cutter or equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material, the removal of 5580 ft^2 of that material will create 160 ft^2 of RACM. For the purposes of this interpretive rule, “RB roof cutter” means an engine-powered roof cutting machine with one or more rotating cutting blades the edges of which are blunt. (Equipment with blades having sharp or tapered edges, and/or which does not use a rotating blade, is used for “slicing” rather than “cutting” the roofing material; such equipment is not included in the term “RB roof cutter”.) Therefore, it is EPA's interpretation that when an RB roof cutter or equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material, any project that is 5580 ft^2 or greater is subject to the NESHAP; conversely, it is EPA's interpretation that when an RB roof cutter or

equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material in a roof removal project that is less than 5580 ft^2, the project is not subject to the NESHAP, except that notification is always required for demolitions. EPA further construes the NESHAP to mean that if slicing or other methods that do not sand, grind, cut or abrade will be used on Category I nonfriable ACM, the NESHAP does not apply, regardless of the area of roof to be removed.

1.A.2. For asbestos cement (A/C) shingles (or other Category II roofing material), if the area of the roofing material to be removed is at least 160 ft^2 and the removal methods will crumble, pulverize, reduce to powder, or contaminate with RACM (from other ACM that has been crumbled, pulverized or reduced to powder) 160 ft^2 or more of such roofing material, the removal is subject to the NESHAP. Conversely, if the area of the A/C shingles (or other Category II roofing materials) to be removed is less than 160 ft^2, the removal is not subject to the NESHAP regardless of the removal method used, except that notification is always required for demolitions. 40 CFR 61.145(a). However, EPA would recommend the use of methods that damage asbestos-containing roofing material as little as possible. If A/C shingles (or other Category II roofing materials) are removed without 160 ft^2 or more of such roofing material being crumbled, pulverized, reduced to powder, or contaminated with RACM (from other ACM that has been crumbled, pulverized or reduced to powder), the operation is not subject to the NESHAP, even where the total area of the roofing material to be removed exceeds 160 ft^2; provided, however, that if the renovation includes other operations involving RACM, the roof removal operation is covered if the total area of RACM from all renovation activities exceeds 160 ft^2. *See* the definition of regulated asbestos-containing material (RACM), 40 CFR 61.141.

1.A.3. Only roofing material that meets the definition of ACM can qualify as RACM subject to the NESHAP. Therefore, to determine if a removal operation that meets or exceeds the coverage threshold is subject to the NESHAP, any suspect roofing material (*i.e.* roofing material that may be ACM) should be tested for asbestos. If any such roofing material contains more than one percent asbestos and if the removal operation is covered by the NESHAP, then EPA must be notified and the work practices in § 61.145(c) must be followed. In EPA's view, if a removal operation involves at least the threshold level of suspect material, a roofing contractor may choose not to test for asbestos if the contractor follows the notification and work practice requirements of the NESHAP.

B. A/C Shingle Removal (Category II ACM Removal)

1.B.1. A/C shingles, which are Category II nonfriable ACM, become regulated ACM if the material has a high probability of becoming or has become crumbled, pulverized or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations. 40 CFR 61.141. However, merely breaking an A/C shingle (or any other category II ACM) that is not friable may not necessarily cause the material to become RACM. A/C shingles are typically nailed to buildings on which they are attached. EPA believes that the extent of breakage that will normally result from carefully removing A/C shingles and lowering the shingles to the ground will not result in crumbling, pulverizing or reducing the shingles to powder. Conversely, the extent of breakage that will normally occur if the A/C shingles are dropped from a building or scraped off of a building with heavy machinery would cause the shingles to become RACM. EPA therefore construes the NESHAP to mean that the removal of A/C shingles that are not friable, using methods that do not crumble, pulverize, or reduce the

A/C shingles to powder (such as pry bars, spud bars and shovels to carefully pry the material), is not subject to the NESHAP provided that the A/C shingles are properly handled during and after removal, as discussed in this paragraph and the asbestos NESHAP. This interpretation also applies to other Category II nonfriable asbestos-containing roofing materials.

C. Cutting vs. Slicing and Manual Methods for Removal of Category I ACM

1.C.1. Because of damage to the roofing material, and the potential for fiber release, roof removal operations using rotating blade (RB) roof cutters or other equipment that sand, grind, cut or abrade the roof material are subject to the NESHAP. As EPA interprets the NESHAP, the use of certain manual methods (using equipment such as axes, hatchets, or knives, spud bars, pry bars, and shovels, but not saws) or methods that slice, shear, or punch (using equipment such as a power slicer or power plow) does not constitute “cutting, sanding, grinding or abrading.” This is because these methods do not destroy the structural matrix or integrity of the material such that the material is crumbled, pulverized or reduced to powder. Hence, it is EPA's interpretation that when such methods are used, assuming the roof material is not friable, the removal operation is not subject to the regulation.

1.C.2. Power removers or power tear-off machines are typically used to pry the roofing material up from the deck after the roof membrane has been cut. It is EPA's interpretation that when these machines are used to pry roofing material up, their use is not regulated by the NESHAP.

1.C.3. As noted previously, the NESHAP only applies to the removal of asbestos-containing roofing materials. Thus, the NESHAP does not apply to the use of RB cutters to remove non-asbestos built up roofing (BUR). On roofs containing some asbestos-containing and some non-asbestos-containing materials, coverage under the NESHAP depends on the methods used to remove each type of material in addition to other coverage thresholds specified above. For example, it is not uncommon for existing roofs to be made of non-asbestos BUR and base flashings that do contain asbestos. In that situation, EPA construes the NESHAP to be inapplicable to the removal of the non-asbestos BUR using an RB cutter so long as the RB cutter is not used to cut 5580 ft^2 or more of the asbestos-containing base flashing or other asbestos-containing material into sections. In addition, the use of methods that slice, shear, punch or pry could then be used to remove the asbestos flashings and not trigger coverage under the NESHAP.

II. Notification

2.1. Notification for a demolition is always required under the NESHAP. However, EPA believes that few roof removal jobs constitute “demolitions” as defined in the NESHAP (§ 61.141). In particular, it is EPA's view that the removal of roofing systems (i.e., the roof membrane, insulation, surfacing, coatings, flashings, mastic, shingles, and felt underlayment), when such removal is not a part of a demolition project, constitutes a “renovation” under the NESHAP. If the operation is a renovation, and Category I roofing material is being removed using either manual methods or slicing, notification is not required by the NESHAP. If Category II material is not friable and will be removed without crumbling, pulverizing, or reducing it to powder, no notification is required. Also, if the renovation involves less than the threshold area for

applicability as discussed above, then no notification is required. However, if a roof removal meets the applicability and threshold requirements under the NESHAP, then EPA (or the delegated agency) must be notified in advance of the removal in accordance with the requirements of § 61.145(b), as follows:

• Notification must be given in writing at least 10 working days in advance and must include the information in § 61.145(b)(4), except for emergency renovations as discussed below.

• The notice must be updated as necessary, including, for example, when the amount of asbestos-containing roofing material reported changes by 20 percent or more.

• EPA must be notified if the start date of the roof removal changes. If the start date of a roof removal project is changed to an earlier date, EPA must be provided with a written notice of the new start date at least 10 working days in advance. If the start date changes to a later date, EPA must be notified by telephone as soon as possible before the original start date and a written notice must be sent as soon as possible.

• For emergency renovations (as defined in § 61.141), where work must begin immediately to avoid safety or public health hazards, equipment damage, or unreasonable financial burden, the notification must be postmarked or delivered to EPA as soon as possible, but no later than the following work day.

III. Emission Control Practices

A. Requirements To Adequately Wet and Discharge No Visible Emission

3.A.1. The principal controls contained in the NESHAP for removal operations include requirements that the affected material be adequately wetted, and that asbestos waste be handled, collected, and disposed of properly. The requirements for disposal of waste materials are discussed separately in section IV below. The emission control requirements discussed in this section III apply only to roof removal operations that are covered by the NESHAP as set forth in Section I above.

3. A.2. For any operation subject to the NESHAP, the regulation (§§ 61.145(c)(2)(i), (3), (6)(i)) requires that RACM be adequately wet (as defined in § 61.141) during the operation that damages or disturbs the asbestos material until collected for disposal.

3.A.3. When using an RB roof cutter (or any other method that sands, grinds, cuts or abrades the roofing material) to remove Category I asbestos-containing roofing material, the emission control requirements of § 61.145(c) apply as discussed in Section I above. EPA will consider a roof removal project to be in compliance with the “adequately wet” and “discharge no visible emission” requirements of the NESHAP if the RB roof cutter is equipped and operated with the following: (1) a blade guard that completely encloses the blade and extends down close to the roof surface; and (2) a device for spraying a fine mist of water inside the blade guard, and which device is in operation during the cutting of the roof.

B. Exemptions From Wetting Requirements

3. B.1. The NESHAP provides that, in certain instances, wetting may not be required during the cutting of Category I asbestos roofing material with an RB roof cutter. If EPA determines in accordance with § 61.145(c)(3)(i), that wetting will unavoidably damage the building, equipment inside the building, or will present a safety hazard while stripping the ACM from a facility component that remains in place, the roof removal operation will be exempted from the requirement to wet during cutting. EPA must have sufficient written information on which to base such a decision. Before proceeding with a dry removal, the contractor must have received EPA's written approval. Such exemptions will be made on a case-by-case basis.

3. B.2. It is EPA's view that, in most instances, exemptions from the wetting requirements are not necessary. Where EPA grants an exemption from wetting because of the potential for damage to the building, damage to equipment within the building or a safety hazard, the NESHAP specifies alternative control methods (§ 61.145(c)(3)(i)(B)). Alternative control methods include (a) the use of local exhaust ventilation systems that capture the dust, and do not produce visible emissions, or (b) methods that are designed and operated in accordance with the requirements of § 61.152, or (c) other methods that have received the written approval of EPA. EPA will consider an alternative emission control method in compliance with the NESHAP if the method has received written approval from EPA and the method is being implemented consistent with the approved procedures (§ 61.145(c)(3)(ii) or § 61.152(b)(3)).

3. B.3. An exemption from wetting is also allowed when the air or roof surface temperature at the point of wetting is below freezing, as specified in § 61.145(c)(7). If freezing temperatures are indicated as the reason for not wetting, records must be kept of the temperature at the beginning, middle and end of the day on which wetting is not performed and the records of temperature must be retained for at least 2 years. 42 CFR § 61.145(c)(7)(iii). It is EPA's interpretation that in such cases, no written application to, or written approval by the Administrator is needed for using emission control methods listed in § 61.145(c)(3)(i)(B), or alternative emission control methods that have been previously approved by the Administrator. However, such written application or approval is required for alternative emission control methods that have not been previously approved. Any dust and debris collected from cutting must still be kept wet and placed in containers. All of the other requirements for notification and waste disposal would continue to apply as described elsewhere in this notice and the Asbestos NESHAP.

C. Waste Collection and Handling

3. C.1. It is EPA's interpretation that waste resulting from slicing and other methods that do not cut, grind, sand or abrade Category I nonfriable asbestos-containing roofing material is not subject to the NESHAP and can be disposed of as nonasbestos waste. EPA further construes the NESHAP to provide that if Category II roofing material (such as A/C shingles) is removed and disposed of without crumbling, pulverizing, or reducing it to powder, the waste from the removal is not subject to the NESHAP waste disposal requirements. EPA also interprets the NESHAP to be inapplicable to waste resulting from roof removal operations that do not meet or exceed the coverage thresholds described in section I above. Of course, other State, local, or Federal regulations may apply.

3. C.2. It is EPA's interpretation that when an RB roof cutter, or other method that similarly damages the roofing material, is used to cut Category I asbestos containing roofing material, the damaged material from the cut (the sawdust or debris) is considered asbestos containing

waste subject to § 61.150 of the NESHAP, provided the coverage thresholds discussed above in section 1 are met or exceeded. This sawdust or debris must be disposed of at a disposal site operated in accordance with the NESHAP. It is also EPA's interpretation of the NESHAP that if the remainder of the roof is free of the sawdust and debris generated by the cutting, or if such sawdust or debris is collected as discussed below in paragraphs 3.C.3, 3.C.4, 3.C.5 and 3.C.6, the remainder of the roof can be disposed of as nonasbestos waste because it is considered to be Category I nonfriable material (as long as the remainder of the roof is in fact nonasbestos material or if it is Category I asbestos material and the removal methods do not further sand, grind, cut or abrade the roof material). EPA further believes that if the roof is not cleaned of such sawdust or debris, *i.e.,* it is contaminated, then it must be treated as asbestos-containing waste material and be handled in accordance with § 61.150.

3. C.3. In order to be in compliance with the NESHAP while using an RB roof cutter (or device that similarly damages the roofing material) to cut Category I asbestos containing roofing material, the dust and debris resulting from the cutting of the roof should be collected as soon as possible after the cutting operation, and kept wet until collected and placed in leak-tight containers. EPA believes that where the blade guard completely encloses the blade and extends down close to the roof surface and is equipped with a device for spraying a fine mist of water inside the blade guard, and the spraying device is in operation during the cutting, most of the dust and debris from cutting will be confined along the cut. The most efficient methods to collect the dust and debris from cutting are to immediately collect or vacuum up the damaged material where it lies along the cut using a filtered vacuum cleaner or debris collector that meets the requirements of 40 CFR 61.152 to clean up as much of the debris as possible, or to gently sweep up the bulk of the debris, and then use a filtered vacuum cleaner that meets the requirements of 40 CFR 61.152 to clean up as much of the remainder of the debris as possible. On smooth surfaced roofs (nonaggregate roofs), sweeping up the debris and then wet wiping the surface may be done in place of using a filtered vacuum cleaner. It is EPA's view that if these decontamination procedures are followed, the remaining roofing material does not have to be collected and disposed of as asbestos waste. Additionally, it is EPA's view that where such decontamination procedures are followed, if the remaining portions of the roof are non-asbestos or Category I nonfriable asbestos material, and if the remaining portions are removed using removal methods that slice, shear, punch or pry, as discussed in section 1.C above, then the remaining portions do not have to be collected and disposed of as asbestos waste and the NESHAP's no visible emissions and adequately wet requirements are not applicable to the removal of the remaining portions. In EPA's interpretation, the failure of a filtered vacuum cleaner or debris collector to collect larger chunks or pieces of damaged roofing material created by the RB roof cutter does not require the remaining roofing material to be handled and disposed of as asbestos waste, provided that such visible chunks or pieces of roofing material are collected (e.g. by gentle sweeping) and disposed of as asbestos waste. Other methods of decontamination may not be adequate, and should be approved by the local delegated agency.

3. C.4. In EPA's interpretation, if the debris from the cutting is not collected immediately, it will be necessary to lightly mist the dust or debris, until it is collected, as discussed above, and placed in containers. The dust or debris should be lightly misted frequently enough to prevent the material from drying, and to prevent airborne emissions, prior to collection as described above. It is EPA's interpretation of the NESHAP that if these procedures are followed, the remaining roofing material does not have to be collected and disposed of as asbestos waste, as long as the remaining roof material is in fact nonasbestos material or if it is Category I asbestos material and the removal methods do not further sand, grind, cut or abrade the roof material.

3. C.

5. It is EPA's interpretation that, provided the roofing material is not friable prior to the cutting operation, and provided the roofing material has not been made friable by the cutting operation, the appearance of rough, jagged or damaged edges on the remaining roofing material, due to the use of an RB roof cutter, does not require that such remaining roofing material be handled and disposed of as asbestos waste. In addition, it is also EPA's interpretation that if the sawdust or debris generated by the use of an RB roof cutter has been collected as discussed in paragraphs 3.C.3, 3.C.4 and 3.C.6, the presence of dust along the edge of the remaining roof material does not render such material “friable” for purposes of this interpretive rule or the NESHAP, provided the roofing material is not friable prior to the cutting operation, and provided that the remaining roofing material near the cutline has not been made friable by the cutting operation. Where roofing material near the cutline has been made friable by the use of the RB cutter (*i.e.* where such remaining roofing material near the cutline can be crumbled, pulverized or reduced to powder using hand pressure), it is EPA's interpretation that the use of an encapsulant will ensure that such friable material need not be treated or disposed of as asbestos containing waste material. The encapsulant may be applied to the friable material after the roofing material has been collected into stacks for subsequent disposal as nonasbestos waste. It is EPA's view that if the encapsulation procedure set forth in this paragraph is followed in operations where roofing material near the cutline has been rendered friable by the use of an RB roof cutter, and if the decontamination procedures set forth in paragraph 3.C.3 have been followed, the NESHAP's no visible emissions and adequately wet requirements would be met for the removal, handling and disposal of the remaining roofing material.

3.C.6. As one way to comply with the NESHAP, the dust and debris from cutting can be placed in leak-tight containers, such as plastic bags, and the containers labeled using warning labels required by OSHA (29 CFR 1926.58). In addition, the containers must have labels that identify the waste generator (such as the name of the roofing contractor, abatement contractor, and/or building owner or operator) and the location of the site at which the waste was generated.

IV. Waste Disposal

A. Disposal Requirements

4.A.1. Section 61.150(b) requires that, as soon as is practical, all collected dust and debris from cutting as well as any contaminated roofing squares, must be taken to a landfill that is operated in accordance with § 61.154 or to an EPA-approved site that converts asbestos waste to nonasbestos material in accordance with § 61.155. During the loading and unloading of affected waste, asbestos warning signs must be affixed to the vehicles.

B. Waste Shipment Record

4.B.1. For each load of asbestos waste that is regulated under the NESHAP, a waste shipment record (WSR) must be maintained in accordance with § 61.150(d). Information that must be maintained for each waste load includes the following:

• Name, address, and telephone number of the waste generator

• Name and address of the local, State, or EPA regional office responsible for administering the asbestos NESHAP program

• Quantity of waste in cubic meters (or cubic yards)

• Name and telephone number of the disposal site operator

• Name and physical site location of the disposal site

• Date transported

• Name, address, and telephone number of the transporter(s)

• Certification that the contents meet all government regulations for transport by highways.

4.B.2. The waste generator is responsible for ensuring that a copy of the WSR is delivered to the disposal site along with the waste shipment. If a copy of the WSR signed by the disposal site operator is not returned to the waste generator within 35 days, the waste generator must contact the transporter and/or the disposal site to determine the status of the waste shipment. 40 CFR 61.150(d)(3). If the signed WSR is not received within 45 days, the waste generator must report, in writing, to the responsible NESHAP program agency and send along a copy of the WSR. 40 CFR 61.150(d)(4). Copies of WSRs, including those signed by the disposal site operator, must be retained for at least 2 years. 40 CFR 61.150(d)(5).

V. Training

5.1. For those roof removals that are subject to the NESHAP, at least one on-site supervisor trained in the provisions of the NESHAP must be present during the removal of the asbestos roofing material. 40 CFR 61.145(c)(8). In EPA's view, this person can be a job foreman, a hired consultant, or someone who can represent the building owner or contractor responsible for the removal. In addition to the initial training requirement, a refresher training course is required every 2 years. The NESHAP training requirements became effective on November 20, 1991.

5.2. Asbestos training courses developed specifically to address compliance with the NESHAP in roofing work, as well as courses developed for other purposes can satisfy this requirement of the NESHAP, as long as the course covers the areas specified in the regulation. EPA believes that Asbestos Hazard Emergency Response Act (AHERA) training courses will, for example, satisfy the NESHAP training requirements. However, nothing in this interpretive rule or in the NESHAP shall be deemed to require that roofing contractors or roofing workers performing operations covered by the NESHAP must be trained or accredited under AHERA, as amended by the Asbestos School Hazard Abatement Reauthorization Act (ASHARA). Likewise, state or local authorities may independently impose additional training, licensing, or accreditation requirements on roofing contractors performing operations covered by the NESHAP, but such additional training, licensing or accreditation is not called for by this interpretive rule or the federal NESHAP.

5.3. For removal of Category I asbestos containing roofing material where RB roof cutters or equipment that similarly damages the asbestos-containing roofing material are used, the NESHAP training requirements (§ 61.145(c)(8)) apply as discussed in Section I above. It is

EPA's intention that removal of Category I asbestos-containing roofing material using hatchets, axes, knives, and/or the use of spud bars, pry bars and shovels to lift the roofing material, or similar removal methods that slice, punch, or shear the roof membrane are not subject to the training requirements, since these methods do not cause the roof removal to be subject to the NESHAP. Likewise, it is EPA's intention that roof removal operations involving Category II nonfriable ACM are not subject to the training requirements where such operations are not subject to the NESHAP as discussed in section I above.

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