ABBREVIATIONS, ACRONYMS, CITATIONS AND IDENTIFICATION NUMBERS

Abbreviations and Acronyms:

° F: degrees Fahrenheit

acfm: actual cubic feet per minute

AOR: Annual Operating Report

ARMS: Air Resource Management System (Department's database)

BACT: best available control technology

Btu: British thermal units

CAM: compliance assurance monitoring

CEMS: continuous emissions monitoring system

cfm: cubic feet per minute

CFR: Code of Federal Regulations

CO: carbon monoxide

COMS: continuous opacity monitoring system

DARM: Division of Air Resources Management

DCA: Department of Community Affairs

DEP: Department of Environmental Protection

Department: Department of Environmental Protection

dscfm: dry standard cubic feet per minute

EPA: Environmental Protection Agency

ESP: electrostatic precipitator (control system for reducing particulate matter)

EU: emissions unit

F.A.C.: Florida Administrative Code

F.D.: forced draft

F.S.: Florida Statutes

FGR: flue gas recirculation

Fl: fluoride

ft^2: square feet

ft^3: cubic feet

gpm: gallons per minute

gr: grains

HAP: hazardous air pollutant

Hg: mercury

I.D.: induced draft

ID: identification

ISO: International Standards Organization (refers to those conditions at 288 Kelvin, 60% relative humidity and 101.3 kilopascals pressure.)

kPa: kilopascals

LAT: Latitude

lb: pound

lbs/hr: pounds per hour

LONG: Longitude

MACT: maximum achievable technology

mm: millimeter

MMBtu: million British thermal units

MSDS: material safety data sheets

MW: megawatt

NESHAP: National Emissions Standards for Hazardous Air Pollutants

NO_X: nitrogen oxides

NSPS: New Source Performance Standards

O&M: operation and maintenance

O_2: oxygen

ORIS: Office of Regulatory Information Systems

OS: Organic Solvent

Pb: lead

PM: particulate matter

PM_{10}: particulate matter with a mean aerodynamic diameter of 10 microns or less

PSD: prevention of significant deterioration

psi: pounds per square inch

PTE: potential to emit

RACT: reasonably available control technology

RATA: relative accuracy test audit

RMP: Risk Management Plan

RO: Responsible Official

SAM: sulfuric acid mist

scf: standard cubic feet

scfm: standard cubic feet per minute

SIC: standard industrial classification code

SNCR: selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)

SOA: Specific Operating Agreement

SO_2: sulfur dioxide

TPH: tons per hour

TPY: tons per year

ULSD: Ultra Low Sulfur Diesel

UTM: Universal Transverse Mercator coordinate system

VE: visible emissions

VOC: volatile organic compounds

x: By or times

Citations:

The following examples illustrate the methods used in this permit to abbreviate and cite the references of rules, regulations, guidance memorandums, permit numbers and ID numbers.

Code of Federal Regulations:

Example: **[40 CFR 60.334]**

Where:	40	refers to	Title 40
	CFR	refers to	Code of Federal Regulations
	60	refers to	Part 60
	60.334	refers to	Regulation 60.334

Florida Administrative Code (F.A.C.) Rules:

Example: **[Rule 62-213.205, F.A.C.]**

Where:	62	refers to	Title 62
	62-213	refers to	Chapter 62-213
	62-213.205	refers to	Rule 62-213.205, F.A.C.

Identification Numbers:

Facility Identification (ID) Number:

Example: Facility ID No.: 1050221

Where:

105 = 3-digit number code identifying the facility is located in Polk County
0221 = 4-digit number assigned by state database.

Permit Numbers:

Example: 1050221-002-AV, or
1050221-001-AC

Where:

AC = Air Construction Permit
AV = Air Operation Permit (Title V Source)
105 = 3-digit number code identifying the facility is located in Polk County
0221= 4-digit number assigned by permit tracking database
001 or 002= 3-digit sequential project number assigned by permit tracking database

Example: PSD-FL-185
PA95-01
AC53-208321

Where:

PSD = Prevention of Significant Deterioration Permit
PA = Power Plant Siting Act Permit
AC53 = old Air Construction Permit numbering identifying the facility is located in Polk County

APPENDIX I

LIST OF INSIGNIFICANT EMISSIONS UNITS AND/OR ACTIVITIES

The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, or that meet the criteria specified in Rule 62-210.300(3)(b)1., F.A.C., Generic Emissions Unit Exemption, are exempt from the permitting requirements of Chapters 62-210, 62-212 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rules 62-210.300(3)(a) and (b)1., F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rules 62-210.300(3)(a) and (b)1., F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

The below listed emissions units and/or activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

Brief Description of Emissions Units and/or Activities

1. Sample Pot; Digester 1, 2, 3
2. Sample Pot; Digester 4, 5, 6
3. Sample Pot; Digester 7, 8, 9
4. Sample Pot; Digester 10, 11, 12
5. #1 Cooling Tower*
6. #2 Cooling Tower*
7. North Cooling Tower*
8. South Cooling Tower*
9. #1 Turbine Oil Reservoir
10. #2 Turbine Oil Reservoir
11. Caustic TK Open Top
12. Caustic/Warm Water Tank Open
13. Empty Bin Storage Area
14. Slimicide Bin SW Corner
15. P-5 Cooling Tower*
16. Open Tank at Pilot Tank Farm
17. PD/P3 Cooling Tower*
18. Parts Washer
19. Welding Area
20. AGV Battery Storage
21. Misc. Parts Washers
22. Mill Sanitary Washers
23. #5 Deaerator
24. #6 Deaerator
25. Defoamer
26. Hot Water Storage Tank
27. $MgSO_4$ Storage
28. Sulfuric Acid Storage
29. 50% NaOH Storage
30. 10% NaOH Storage Tank
31. Caustic Supply Tank
32. $NaClO_3$ Storage

33. $NaClO_3$ Unloading
34. Cooling Water Collection
35. Sulfuric Acid Head
36. $NaClO_3$ Head Tank
37. Chill Water Storage Tank
38. Calciner Sulfur Storage Tank
39. 50% NaOH Storage Tank
40. Sulfuric Acid Storage
41. Tall Oil Storage #1
42. Tall Oil Storage #2
43. Spent Acid Tank
44. #1 High Pressure OH Feed
45. #2 High Pressure OH Feed
46. #1 Low Pressure OH Feed
47. #2 Low Pressure OH Feed
48. Low Pressure Caustic Mix Tank
49. High Pressure Caustic Mix Tank
50. Sulfuric Acid Day Tank
51. Caustic Day Tank
52. Low Freeze Caustic Storage Tank
53. Sulfuric Acid Storage
54. Hercules 54412 Balanced Polymer Storage Tank
55. Hercules Corrtrol OS7780 Storage Tank
56. Hercules Steammate NA074 Storage Tank
57. Cond. Storage
58. Alum Tank
59. Slimicide Liq. Bin Storage
60. (S) 50% Caustic Tank
61. (N) 50% Caustic Tank
62. 10% Caustic Tank
63. Plastic Defoamer Tank WTP
64. Phosphoric Acid Tank WTP
65. Nutrient Nitrogen Tank
66. #1 Polyamine Storage Tank, Plastic
67. #2 Polyamine Storage Tank (S)
68. Pilot Tank Farm NW Most Tank
69. Pilot Tank Farm SW Tank
70. Pilot Tank Farm SE Tank
71. Hydrogen Peroxide Storage Tank
72. East Oxygen Storage Tank
73. West Oxygen Storage Tank
74. Nitrogen Storage Tank
75. Bleach Plant Defoamer Storage Tank
76. Anthraquinone Storage Tank
77. Methanol Storage Tank

* Cooling Tower Treatment Chemicals Contain No Chromium per Hercules (BetzDearborn) 12/7/98 memo and Material Safety Data Sheets.

REQUIREMENTS FOR INTERNAL COMBUSTION ENGINES

This Title V facility contains stationary internal combustion engines that have been exempted from the requirement to obtain an air construction permit because they qualify for one of the categorical exemptions listed in Rule 62-210.300(3)(a), Florida Administrative Code (F.A.C.). However, they are included in this permit as regulated emissions units because they are subject to one or more of the following federal rules:

- *40 CFR 60, Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.*
- 40 CFR 60, Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.
- 40 CFR 63, Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

The below listed engines are subject to the specified federal rules.

E.U. ID No.	Brief Description of Engine	Year Built	Displacement or Horsepower	Rule Applicability
074	One Existing Diesel Powered Emergency CI RICE	<2006	76	ZZZZ
075	One New Diesel Powered Emergency CI RICE	2010	205	IIII
076	One New Diesel Powered Non-Emergency CI RICE	2010	237	IIII

The certified engines listed above are currently demonstrating compliance with the emissions limitations of the applicable federal rule through the retention of a manufacturer's certification statement. So long as that certification is able to be retained, no additional compliance demonstration is required. At such time that the manufacturer's certification is no longer valid (i.e. due to operation or maintenance practices that are inconsistent with the manufacturer's recommendations), the permittee shall begin demonstrating compliance with the standards listed in the applicable federal rule (included in the appendices as an enforceable part of this permit) in a manner that is prescribed by that rule.

FACILITY-WIDE REPORTING REQUIREMENTS

(Version Dated 1/10/2014)

RR1. Reporting Schedule. This table summarizes information for convenience purposes only. It does not supersede any of the terms or conditions of this permit.

Report	**Reporting Deadline(s)**	**Related Condition(s)**
Plant Problems/Permit Deviations	Immediately upon occurrence (See RR2.d.)	RR2, RR3
Malfunction Excess Emissions Report	Quarterly (if requested)	RR3
Semi-Annual Monitoring Report	Every 6 months	RR4
Annual Operating Report	April 1	RR5
EAOR Title V Annual Emissions Fee Invoice and Fee Payment	April 1	RR6
Annual Statement of Compliance	Within 60 days after the end of each calendar year (or more frequently if specified by Rule 62-213.440(2), F.A.C., or by any other applicable requirement); and Within 60 days after submittal of a written agreement for transfer of responsibility, or Within 60 days after permanent shutdown.	RR7
Notification of Administrative Permit Corrections	As needed	RR8
Notification of Startup after Shutdown for More than One Year	Minimum of 60 days prior to the intended startup date or, if emergency startup, as soon as possible after the startup date is ascertained	RR9
Permit Renewal Application	225 days prior to the expiration date of permit	TV17
Test Reports	Maximum 45 days following compliance tests	TR8

{Permitting Note: See permit Section III. Emissions Units and Specific Conditions, for any additional Emission Unit-specific reporting requirements.}

RR2. Reports of Problems.

a. Plant Operation-Problems. If the permittee is temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the permittee shall immediately notify the Department. Notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with Department rules.

b. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
   (1) A description of and cause of noncompliance; and
   (2) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

c. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.
d. "Immediately" shall mean the same day, if during a workday (i.e., 8:00 a.m. - 5:00 p.m.), or the first business day after the incident, excluding weekends and holidays; and, for purposes of Rule 62-4.160(15) and 40 CFR 70.6(a)(3)(iii)(B), "promptly" or "prompt" shall have the same meaning as "immediately".

[Rule 62-4.130, Rule 62-4.160(8), Rule 62-4.160(15), and Rule 62-213.440(1)(b), F.A.C.; 40 CFR 70.6(a)(3)(iii)(B)]

RR3. Reports of Deviations from Permit Requirements. The permittee shall report in accordance with the requirements of Rule 62-210.700(6), F.A.C. (below), and Rule 62-4.130, F.A.C. (condition RR2.), deviations from permit requirements, including those attributable to upset conditions as defined in the permit. Reports shall include the probable cause of such deviations, and any corrective actions or preventive measures taken. *Rule 62-210.700(6)*: In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. (See condition RR2.). A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.
[Rules 62-213.440(1)(b)3.b., and 62-210.700(6)F.A.C.]

RR4. Semi-Annual Monitoring Reports. The permittee shall submit reports of any required monitoring at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports. [Rule 62-213.440(1)(b)3.a., F.A.C.]

RR5. Annual Operating Report. The information required by the Annual Operating Report for Air Pollutant Emitting Facility [Including Title V Source Emissions Fee Calculation] (DEP Form No. 62-210.900(5)) shall be submitted by April 1 of each year, for the previous calendar year, to the Department of Environmental Protection's Division of Air Resource Management. Each Title V source shall submit the annual operating report using the DEP's Electronic Annual Operating Report (EAOR) software, unless the Title V source claims a technical or financial hardship by submitting DEP Form No. 62-210.900(5) to the DEP Division of Air Resource Management instead of using the reporting software. Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C. [Rules 62-210.370(2) and (3), 62-210.900 and 62-213.440(3)(a)2., F.A.C.]

RR6. EAOR Title V Annual Emissions Fee Invoice and Fee Payment. Each Title V source permitted to operate in Florida must pay between January 15 and April 1 of each year, an annual emissions fee in an amount determined as set forth in Rule 62-213.205(1), F.A.C.

a. If the Department has not received the fee by March 1 of the year following the calendar year for which the fee is calculated, the Department will send the primary responsible official of the Title V source a written warning of the consequences for failing to pay the fee by April 1. If the fee is not postmarked or electronically submitted by April 1 of the year due, the Department shall impose, in addition to the fee, a penalty of 50 percent of the amount of the fee unpaid plus interest on such amount computed in accordance with Section 220.807, F.S. If the Department determines that a submitted fee was inaccurately calculated, the Department shall either refund to the permittee any amount overpaid or notify the permittee of any amount underpaid. The Department shall not impose a penalty or interest on any amount underpaid, provided that the permittee has timely remitted payment of at least 90 percent of the amount determined to be due and remits full payment within 60 days after receipt of notice of the amount underpaid. The Department shall waive the collection of underpayment and shall not refund overpayment of the fee, if the amount is less than one percent of the fee due, up to $50.00. The Department shall make every effort to provide a timely assessment of the adequacy of the submitted fee. Failure to pay timely any required annual emissions fee, penalty, or interest constitutes grounds for permit revocation pursuant to Rule 62-4.100, F.A.C.

b. Any documentation of actual hours of operation, actual material or heat input, actual production amount, or actual emissions used to calculate the annual emissions fee shall be retained by the owner for a minimum of five years and shall be made available to the Department upon request.
c. A copy of the EAOR Title V Annual Emissions Fee Invoice generated by the electronic annual operating report (EAOR) application, must be submitted along with the annual emissions fee payment.

[Rules 62-210.370(3), 62-210.900 and 62-213.205, F.A.C.]

RR7. Annual Statement of Compliance.

a. The permittee shall submit a Statement of Compliance with all terms and conditions of the permit that includes all the provisions of 40 CFR 70.6(c)(5)(iii), incorporated by reference at Rule 62-204.800, F.A.C., using DEP Form No. 62-213.900(7). Such statement shall be accompanied by a certification in accordance with Rule 62-213.420(4), F.A.C., for Title V requirements and with Rule 62-214.350, F.A.C., for Acid Rain requirements. Such statements shall be submitted (postmarked) to the Department and EPA:
   (1) Annually, within 60 days after the end of each calendar year during which the Title V permit was effective, or more frequently if specified by Rule 62-213.440(2), F.A.C., or by any other applicable requirement; and
   (2) Within 60 days after submittal of a written agreement for transfer of responsibility as required pursuant to 40 CFR 70.7(d)(1)(iv), adopted and incorporated by reference at Rule 62-204.800, F.A.C., or within 60 days after permanent shutdown of a facility permitted under Chapter 62-213, F.A.C.; provided that, in either such case, the reporting period shall be the portion of the calendar year the permit was effective up to the date of transfer of responsibility or permanent facility shutdown, as applicable.
b. In lieu of individually identifying all applicable requirements and specifying times of compliance with, non-compliance with, and deviation from each, the responsible official may use DEP Form No. 62-213.900(7) as such statement of compliance so long as the responsible official identifies all reportable deviations from and all instances of non-compliance with any applicable requirements and includes all information required by the federal regulation relating to each reportable deviation and instance of non-compliance.
c. The responsible official may treat compliance with all other applicable requirements as a surrogate for compliance with Rule 62-296.320(2), Objectionable Odor Prohibited.

[Rules 62-213.440(3)(a)2. and 3. and (b), F.A.C.]

RR8. Notification of Administrative Permit Corrections.

A facility owner shall notify the Department by letter of minor corrections to information contained in a permit. Such notifications shall include:

a. Typographical errors noted in the permit;
b. Name, address or phone number change from that in the permit;
c. A change requiring more frequent monitoring or reporting by the permittee;
d. A change in ownership or operational control of a facility, subject to the following provisions:
   (1) The Department determines that no other change in the permit is necessary;
   (2) The permittee and proposed new permittee have submitted an Application for Transfer of Air Permit, and the Department has approved the transfer pursuant to Rule 62-210.300(7), F.A.C.; and
   (3) The new permittee has notified the Department of the effective date of sale or legal transfer.
e. Changes listed at 40 CFR 72.83(a)(1), (2), (6), (9) and (10), adopted and incorporated by reference at Rule 62-204.800, F.A.C., and changes made pursuant to Rules 62-214.340(1) and (2), F.A.C., to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss. 7651-7651o;

f. Changes listed at 40 CFR 72.83(a)(11) and (12), adopted and incorporated by reference at Rule 62-204.800, F.A.C., to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss. 7651-7651o, provided the notification is accompanied by a copy of any EPA determination concerning the similarity of the change to those listed at Rule 62-210.360(1)(e), F.A.C.; and
g. Any other similar minor administrative change at the source.

[Rule 62-210.360, F.A.C.]

RR9. Notification of Startup. The owners or operator of any emissions unit or facility which has a valid air operation permit which has been shut down more than one year, shall notify the Department in writing of the intent to start up such emissions unit or facility, a minimum of 60 days prior to the intended startup date.

a. The notification shall include information as to the startup date, anticipated emission rates or pollutants released, changes to processes or control devices which will result in changes to emission rates, and any other conditions which may differ from the valid outstanding operation permit.
b. If, due to an emergency, a startup date is not known 60 days prior thereto, the owner shall notify the Department as soon as possible after the date of such startup is ascertained.

[Rule 62-210.300(5), F.A.C.]

RR10. Report Submission. The permittee shall submit all compliance related notifications and reports required of this permit to the Compliance Authority. {See front of permit for address and phone number.}

RR11. EPA Report Submission. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to: Air, Pesticides & Toxics Management Division, United States Environmental Protection Agency, Region 4, Sam Nunn Atlanta Federal Center, 61 Forsyth Street SW, Atlanta, GA 30303-8960. Phone: 404-562-9077.

RR12. Acid Rain Report Submission. Acid Rain Program Information shall be submitted, as necessary, to: Department of Environmental Protection, 2600 Blair Stone Road, Mail Station #5510, Tallahassee, Florida 32399-2400. Phone: 850-488-6140. Fax: 850/922-6979.

RR13. Report Certification. All reports shall be accompanied by a certification by a responsible official, pursuant to Rule 62-213.420(4), F.A.C. [Rule 62-213.440(1)(b)3.c, F.A.C.]

RR14. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information. [Rule 62-213.420(4), F.A.C.]

RR15. Confidential Information. Whenever an applicant submits information under a claim of confidentiality pursuant to Section 403.111, F.S., the applicant shall also submit a copy of all such information and claim directly to EPA. Any permittee may claim confidentiality of any data or other information by complying with this procedure. [Rules 62-213.420(2), and 62-213.440(1)(d)6., F.A.C.]

RR16. Forms and Instructions. The forms used by the Department in the Title V source operation program are adopted and incorporated by reference in Rule 62-213.900, F.A.C. The forms are listed by rule number, which is also the form number, and with the subject, title, and effective date. Copies of forms may be obtained by writing to the Department of Environmental Protection, Division of Air Resource Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, by contacting the appropriate permitting authority or by accessing the Department's web site at: http://www.dep.state.fl.us/air/rules/forms.htm.

a. Annual Operating Report for Air Pollutant Emitting Facility [Including Title V Source Emissions Fee Calculation] (DEP Form No. 62-210.900(5)) (Effective 12/31/2013)

b. Statement of Compliance Form (Effective 06/02/2002).
c. Responsible Official Notification Form (Effective 06/02/2002).
[Rule 62-213.900, F.A.C.: Forms (1), (7) and (8)]

FACILITY-WIDE TESTING REQUIREMENTS

(Version Dated 9/12/2008)

Unless otherwise specified in the permit, the following testing requirements apply to each emissions unit for which testing is required. The terms "stack" and "duct" are used interchangeably in this appendix.

TR1. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]

TR2. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]

TR3. Calculation of Emission Rate. For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]

TR4. Applicable Test Procedures.

a. *Required Sampling Time.*

(1) Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

(2) Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

(a) For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.

(b) The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.

(c) The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

b. *Minimum Sample Volume*. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet.

c. *Required Flow Rate Range.* For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

d. *Calibration of Sampling Equipment*. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.

TABLE 297.310-1 CALIBRATION SCHEDULE

ITEM	MINIMUM CALIBRATION FREQUENCY	REFERENCE INSTRUMENT	TOLERANCE
Liquid in glass thermometer	Annually	ASTM Hg in glass ref. thermometer or equivalent or thermometric points	+/-2%
Bimetallic thermometer	Quarterly	Calib. liq. in glass	5° F
Thermocouple	Annually	ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer	5° F
Barometer	Monthly	Hg barometer or NOAA station	+/-1% scale
Pitot Tube	When required or when damaged	By construction or measurements in wind tunnel D greater than 16” and standard pitot tube	See EPA Method 2, Fig. 2-2 & 2-3
Probe Nozzles	Before each test or when nicked, dented, or corroded	Micrometer	+/- 0.001” mean of at least three readings; Max. deviation between readings, 0.004”
Dry Gas Meter and Orifice Meter	1. Full Scale: When received, when 5% change observed, annually	Spirometer or calibrated wet test or dry gas test meter	2%
	2. One Point: Semiannually		
	3. Check after each test series	Comparison check	5%

d. *Allowed Modification to EPA Method 5*. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.
[Rule 62-297.310(4), F.A.C.]

TR5. Determination of Process Variables.

a. *Required Equipment*. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

b. *Accuracy of Equipment*. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

TR6. Sampling Facilities. Permittees that are required to sample mass emissions from point sources shall install stack sampling ports and provide sampling facilities that meet the requirements of this condition. Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must also comply with all applicable Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

a. *Permanent Test Facilities*. The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.

b. *Temporary Test Facilities*. The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department and remain on the emissions unit until the test is completed.

c. *Sampling Ports*.
   (1) All sampling ports shall have a minimum inside diameter of 3 inches.
   (2) The ports shall be capable of being sealed when not in use.
   (3) The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.
   (4) For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.
   (5) On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.

d. *Work Platforms*.
   (1) Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.

(2) On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.
(3) On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.
(4) All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toe board, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.

e. *Access to Work Platform*.
(1) Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.
(2) Walkways over free-fall areas shall be equipped with safety rails and toe boards.

f. *Electrical Power*.
(1) A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.
(2) If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

g. *Sampling Equipment Support*.
(1) A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.
(a) The bracket shall be a standard 3 inch × 3 inch × one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.
(b) A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.
(c) The three-quarter inch eyebolt shall be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.
(2) A complete monorail or dual rail arrangement may be substituted for the eyebolt and bracket.
(3) When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

[Rule 62-297.310(6), F.A.C.]

TR7. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

a. *General Compliance Testing.*
(1) The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit.
(2) For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.

(3) The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to sub-subparagraph 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
   (a) Did not operate; or
   (b) In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.

(4) During each federal fiscal year (October 1 – September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
   (a) Visible emissions, if there is an applicable standard;
   (b) Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
   (c) Each NESHAP pollutant, if there is an applicable emission standard.

(5) An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.

(6) For fossil fuel steam generators on a semi-annual particulate matter emission compliance testing schedule, a compliance test shall not be required for any six-month period in which liquid and/or solid fuel is not burned for more than 200 hours other than during startup.

(7) For emissions units electing to conduct particulate matter emission compliance testing quarterly pursuant to paragraph 62-296.405(2)(a), F.A.C., a compliance test shall not be required for any quarter in which liquid and/or solid fuel is not burned for more than 100 hours other than during startup.

(8) Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.

(9) The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. Notification of compliance testing may be submitted by electronic mail to nwdair@dep.state.fl.us.

(10) An annual compliance test conducted for visible emissions shall not be required for units exempted from air permitting pursuant to subsection 62-210.300(3), F.A.C.; units determined to be insignificant pursuant to subparagraph 62-213.300(2)(a)1., A.C., or paragraph 62-213.430(6)(b), F.A.C.; or units permitted under the General Permit provisions in paragraph 62-210.300(4)(a) or Rule 62-213.300, F.A.C., unless the general permit specifically requires such testing.

b. *Special Compliance Tests*. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. Test reports may be submitted by electronic mail to nwdair@dep.state.fl.us.

c. *Waiver of Compliance Test Requirements.* If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of paragraph 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.]

TR8. Test Reports.

a. The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

b. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. Test reports may be submitted by electronic mail to nwdair@dep.state.fl.us.

c. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information.

(1) The type, location, and designation of the emissions unit tested.
(2) The facility at which the emissions unit is located.
(3) The owner or operator of the emissions unit.
(4) The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
(5) The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
(6) The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
(7) A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
(8) The date, starting time and duration of each sampling run.
(9) The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
(10) The number of points sampled and configuration and location of the sampling plane.
(11) For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
(12) The type, manufacturer and configuration of the sampling equipment used.
(13) Data related to the required calibration of the test equipment.
(14) Data on the identification, processing and weights of all filters used.
(15) Data on the types and amounts of any chemical solutions used.
(16) Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
(17) The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.

(18) All measured and calculated data required to be determined by each applicable test procedure for each run.
(19) The detailed calculations for one run that relate the collected data to the calculated emission rate.
(20) The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit plus the test result in the same form and unit of measure.
(21) A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

Operation

TV1. General Prohibition. A permitted installation may only be operated, maintained, constructed, expanded or modified in a manner that is consistent with the terms of the permit. [Rule 62-4.030, Florida Administrative Code (F.A.C.)]

TV2. Validity. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department. [Rule 62-4.160(2), F.A.C.]

TV3. Proper Operation and Maintenance. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules. [Rule 62-4.160(6), F.A.C.]

TV4. Not Federally Enforceable. Health, Safety and Welfare. To ensure protection of public health, safety, and welfare, any construction, modification, or operation of an installation which may be a source of pollution, shall be in accordance with sound professional engineering practices pursuant to Chapter 471, F.S. [Rule 62-4.050(3), F.A.C.]

TV5. Continued Operation. An applicant making timely and complete application for permit, or for permit renewal, shall continue to operate the source under the authority and provisions of any existing valid permit or Florida Electrical Power Plant Siting Certification, and in accordance with applicable requirements of the Acid Rain Program and applicable requirements of the CAIR Program, until the conclusion of proceedings associated with its permit application or until the new permit becomes effective, whichever is later, provided the applicant complies with all the provisions of subparagraphs 62-213.420(1)(b)3., F.A.C. [Rules 62-213.420(1)(b)2., F.A.C.]

TV6. Changes Without Permit Revision. Title V sources having a valid permit issued pursuant to Chapter 62-213, F.A.C., may make the following changes without permit revision, provided that sources shall maintain source logs or records to verify periods of operation:

a. Permitted sources may change among those alternative methods of operation allowed by the source's permit as provided by the terms of the permit;
b. A permitted source may implement operating changes, as defined in Rule 62-210.200, F.A.C., after the source submits any forms required by any applicable requirement and provides the Department and EPA with at least 7 days written notice prior to implementation. The source and the Department shall attach each notice to the relevant permit;
   (1) The written notice shall include the date on which the change will occur, and a description of the change within the permitted source, the pollutants emitted and any change in emissions, and any term or condition becoming applicable or no longer applicable as a result of the change;
   (2) The permit shield described in Rule 62-213.460, F.A.C., shall not apply to such changes;
c. Permitted sources may implement changes involving modes of operation only in accordance with Rule 62-213.415, F.A.C.

[Rule 62-213.410, F.A.C.]

TV7. Circumvention. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly. [Rule 62-210.650, F.A.C.]

Compliance

TV8. Compliance with Chapter 403, F.S., and Department Rules. Except as provided at Rule 62-213.460, Permit Shield, F.A.C., the issuance of a permit does not relieve any person from complying with the requirements of Chapter 403, F.S., or Department rules. [Rule 62-4.070(7), F.A.C.]

TV9. Compliance with Federal, State and Local Rules. Except as provided at Rule 62-213.460, F.A.C., issuance of a permit does not relieve the owner or operator of a facility or an emissions unit from complying with any applicable requirements, any emission limiting standards or other requirements of the air pollution rules of the Department or any other such requirements under federal, state, or local law. [Rule 62-210.300, F.A.C.]

TV10. Binding and enforceable. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions. [Rule 62-4.160(1), F.A.C.]

TV11. Timely information. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly. [Rule 62-4.160(15), F.A.C.]

TV12. Halting or reduction of source activity. It shall not be a defense for a permittee in an enforcement action that maintaining compliance with any permit condition would necessitate halting of or reduction of the source activity. [Rule 62-213.440(1)(d)3., F.A.C.]

TV13. Final permit action. Any Title V source shall comply with all the terms and conditions of the existing permit until the Department has taken final action on any permit renewal or any requested permit revision, except as provided at Rule 62-213.412(2), F.A.C. [Rule 62-213.440(1)(d)4., F.A.C.]

TV14. Sudden and unforeseeable events beyond the control of the source. A situation arising from sudden and unforeseeable events beyond the control of the source which causes an exceedance of a technology-based emissions limitation because of unavoidable increases in emissions attributable to the situation and which requires immediate corrective action to restore normal operation, shall be an affirmative defense to an enforcement action in accordance with the provisions and requirements of 40 CFR 70.6(g)(2) and (3), hereby adopted and incorporated by reference. [Rule 62-213.440(1)(d)5., F.A.C.]

TV15. Permit Shield. Except as provided in Chapter 62-213, F.A.C., compliance with the terms and conditions of a permit issued pursuant to Chapter 62-213, F.A.C., shall, as of the effective date of the permit, be deemed compliance with any applicable requirements in effect, provided that the source included such applicable requirements in the permit application. Nothing in this condition or in any permit shall alter or affect the ability of EPA or the Department to deal with an emergency, the liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance, or the requirements of the Federal Acid Rain Program or the CAIR Program. [Rule 62-213.460, F.A.C.]

TV16. Compliance With Federal Rules. A facility or emissions unit subject to any standard or requirement of 40 CFR, Part 60, 61, 63 or 65, adopted and incorporated by reference at Rule 62-204.800, F.A.C., shall comply with such standard or requirement. Nothing in this chapter shall relieve a facility or emissions unit from complying with such standard or requirement, provided, however, that where a facility or emissions unit is subject to a standard established in Rule 62-296, F.A.C., such standard shall also apply. [Rule 62-296.100(3), F.A.C.]

Permit Procedures

TV17. Permit Revision Procedures. The permittee shall revise its permit as required by Rules 62-213.400, 62-213.412, 62-213.420, 62-213.430 & 62-4.080, F.A.C.; and, in addition, the Department shall revise permits as provided in Rule 62-4.080, F.A.C. & 40 CFR 70.7(f).

TV18. Permit Renewal. The permittee shall renew its permit as required by Rules 62-4.090, 62.213.420(1) and 62-213.430(3), F.A.C. Permits being renewed are subject to the same requirements that apply to permit

issuance at the time of application for renewal. Permit renewal applications shall contain that information identified in Rules 62-210.900(1) [Application for Air Permit - Long Form], 62-213.420(3) [Required Information], 62-213.420(6) [CAIR Part Form], F.A.C. Unless a Title V source submits a timely and complete application for permit renewal in accordance with the requirements this rule, the existing permit shall expire and the source's right to operate shall terminate. For purposes of a permit renewal, a timely application is one that is submitted 225 days before the expiration of a permit that expires on or after June 1, 2009. No Title V permit will be issued for a new term except through the renewal process. You can obtain a permit application form or apply for permit renewal electronically at the following web address: http://www.dep.state.fl.us/air/emission/permitting.htm. [Rules 62-213.420 & 62-213.430, F.A.C.]

TV19. Insignificant Emissions Units or Pollutant-Emitting Activities. The permittee shall identify and evaluate insignificant emissions units and activities as set forth in Rule 62-213.430(6), F.A.C.

TV20. Savings Clause. If any portion of the final permit is invalidated, the remainder of the permit shall remain in effect. [Rule 62-213.440(1)(d)1., F.A.C.]

TV21. Suspension and Revocation.

a. Permits shall be effective until suspended, revoked, surrendered, or expired and shall be subject to the provisions of Chapter 403, F.S., and rules of the Department.
b. Failure to comply with pollution control laws and rules shall be grounds for suspension or revocation.
c. A permit issued pursuant to Chapter 62-4, F.A.C., shall not become a vested property right in the permittee. The Department may revoke any permit issued by it if it finds that the permit holder or his agent:
   (1) Submitted false or inaccurate information in his application or operational reports.
   (2) Has violated law, Department orders, rules or permit conditions.
   (3) Has failed to submit operational reports or other information required by Department rules.
   (4) Has refused lawful inspection under Section 403.091, F.S.
d. No revocation shall become effective except after notice is served by personal services, certified mail, or newspaper notice pursuant to Section 120.60(5), F.S., upon the person or persons named therein and a hearing held if requested within the time specified in the notice. The notice shall specify the provision of the law, or rule alleged to be violated, or the permit condition or Department order alleged to be violated, and the facts alleged to constitute a violation thereof.

[Rule 62-4.100, F.A.C.]

TV22. Not federally enforceable. Financial Responsibility. The Department may require an applicant to submit proof of financial responsibility and may require the applicant to post an appropriate bond to guarantee compliance with the law and Department rules. [Rule 62-4.110, F.A.C.]

TV23. Emissions Unit Reclassification.

a. Any emissions unit whose operation permit has been revoked as provided for in Chapter 62-4, F.A.C., shall be deemed permanently shut down for purposes of Rule 62-212.500, F.A.C. Any emissions unit whose permit to operate has expired without timely renewal or transfer may be deemed permanently shut down, provided, however, that no such emissions unit shall be deemed permanently shut down if, within 20 days after receipt of written notice from the Department, the emissions unit owner or operator demonstrates that the permit expiration resulted from inadvertent failure to comply with the requirements of Rule 62-4.090, F.A.C., and that the owner or operator intends to continue the emissions unit in operation, and either submits an application for an air operation permit or complies with permit transfer requirements, if applicable.
b. If the owner or operator of an emissions unit which is so permanently shut down, applies to the Department for a permit to reactivate or operate such emissions unit, the emissions unit will be reviewed and permitted as a new emissions unit.

[Rule 62-210.300(6), F.A.C.]

TV24. Transfer of Permits. Per Rule 62-4.160(11), F.A.C., this permit is transferable only upon Department approval in accordance with Rule 62-4.120, F.A.C., as applicable. The permittee shall be liable for any non-

compliance of the permitted activity until the transfer is approved by the Department. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations occurring prior to the sale or legal transfer of the facility. The permittee shall also comply with the requirements of Rule 62-210.300(7), F.A.C., and use DEP Form No. 62-210.900(7). [Rules 62-4.160(11), 62-4.120, and 62-210.300(7), F.A.C.]

Rights, Title, Liability, and Agreements

TV25. Rights. As provided in Subsections 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit. [Rule 62-4.160(3), F.A.C.]

TV26. Title. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title. [Rule 62-4.160(4), (F.A.C.]

TV27. Liability. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of F.S. and Department rules, unless specifically authorized by an order from the Department. [Rule 62-4.160(5), F.A.C.]

TV28. Agreements.

a. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
   (1) Have access to and copy any records that must be kept under conditions of the permit;
   (2) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and,
   (3) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.
b. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
c. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

[Rules 62-4.160(7), (9), and (10), F.A.C.]

Recordkeeping and Emissions Computation

TV29. Permit. The permittee shall keep this permit or a copy thereof at the work site of the permitted activity. [Rule 62-4.160(12), F.A.C.]

TV30. Recordkeeping.

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports

required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least five (5) years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:
   (1) The date, exact place, and time of sampling or measurements, and the operating conditions at the time of sampling or measurement;
   (2) The person responsible for performing the sampling or measurements;
   (3) The dates analyses were performed;
   (4) The person and company that performed the analyses;
   (5) The analytical techniques or methods used;
   (6) The results of such analyses.

[Rules 62-4.160(14) and 62-213.440(1)(b)2., F.A.C.]

TV31. Emissions Computation. Pursuant to Rule 62-210.370, F.A.C., the following required methodologies are to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance with Rule 62-210.370, F.A.C. Rule 62-210.370, F.A.C., is not intended to establish methodologies for determining compliance with the emission limitations of any air permit.

For any of the purposes specified above, the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.

a. *Basic Approach*. The owner or operator shall employ, on a pollutant-specific basis, the most accurate of the approaches set forth below to compute the emissions of a pollutant from an emissions unit; provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit.
   (1) If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.
   (2) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C, but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
   (3) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.

b. *Continuous Emissions Monitoring System (CEMS)*.
   (1) An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:
      (a) The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C.; or,
      (b) The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.

(2) Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:
   (a) A calibrated flowmeter that records data on a continuous basis, if available; or
   (b) The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
(3) The owner or operator may use CEMS data in combination with an appropriate f-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.

c. *Mass Balance Calculations.*
(1) An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:
   (a) Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and,
   (b) Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.
(2) Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using site-specific data that another content within the range is more accurate.
(3) In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.

d. *Emission Factors.*
(1) An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements:

   (a) If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
   (b) Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.
   (c) The owner or operator shall compute emissions by multiplying the appropriate emission factor by the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.

(2) If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.

e. *Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS*. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.

f. *Accounting for Emissions During Periods of Startup and Shutdown.* In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.

g. *Fugitive Emissions.* In computing the emissions of a pollutant from a facility or emissions unit, the owner or operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.

h. *Recordkeeping.* The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the department for any regulatory purpose.

[Rule 62-210.370(1) & (2), F.A.C.]

Responsible Official

TV32. Designation and Update. The permittee shall designate and update a responsible official as required by Rule 62-213.202, F.A.C.

Prohibitions and Restrictions

TV33. Asbestos. This permit does not authorize any demolition or renovation of the facility or its parts or components which involves asbestos removal. This permit does not constitute a waiver of any of the requirements of Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, National Emission Standard for Asbestos, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Compliance with Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, Section 61.145, is required for any asbestos demolition or renovation at the source. [40 CFR 61; Rule 62-204.800, F.A.C.; and, Chapter 62-257, F.A.C.]

TV34. Refrigerant Requirements. Any facility having refrigeration equipment, including air conditioning equipment, which uses a Class I or II substance (listed at 40 CFR 82, Subpart A, Appendices A and B), and any facility which maintains, services, or repairs motor vehicles using a Class I or Class II substance as refrigerant must comply with all requirements of 40 CFR 82, Subparts B and F, and with Chapter 62-281, F.A.C.

TV35. Open Burning Prohibited. Open burning is prohibited unless performed in accordance with the provisions of Rule 62-296.320(3) or Chapter 62-256, F.A.C.

LIST OF UNREGULATED EMISSIONS UNITS AND/OR ACTIVITIES.

Unregulated Emissions Units and/or Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

The below listed emissions units and/or activities are neither 'regulated emissions units' nor 'insignificant emissions units'.

EU ID No.	Brief Description of Emissions Units and/or Activity
066	Pine Chip Thickness Screening System
066	Woodyard – Other Sources
053	Digesters and Brown Stock Washers - Other Sources
066	B Line Bleach Plant - Other Sources
062	B Line EO Washer
047	ClO_2 Generation Process - Other Sources
066	Evaporators - Other Sources
066	Recovery - Other Sources
066	Lime Kiln/Mud Dryer - Other Sources
066	Causticizing Area
066	Coal Handling – Other Sources
066	Power and Steam Generation - Other Sources
066	Chemical Additives – Other Sources
043	P5 Paper Machine
066	Waste Water Treatment
066	No. 4 Pulp Dryer
066	Turpentine Storage
066	Tall Oil - Other Sources
066	Water Treatment
066	Miscellaneous Sources
066	Roll Grinder
066	P5 Paper Machine Make-Down Area Vent
054	Kamyr Continuous Digester & Condensate Stripper
039	Coal Crusher
040	Coal Handling

The following attachment is included for convenient reference:

Table H, Permit History.

TABLE H

PERMIT HISTORY

E.U. ID No.	Description	Permit No.	Effective Date	Expiration Date	Project Type
ALL	Initial Title V	0330042-002-AV	08/17/2000	08/17/2005	Initial
ALL	Title V Revision	0330042-005-AV	04/09/2001	08/17/2005	Revised April 9, 2001
028, 067	Thermal Oxidizer	0330042-006-AC	03/01/2001	03/01/2006	Construction Permit
001,029,030 ,050, 051,063,068	Digester	0330042-007-AC	07/23/2003	03/17/2006	Surrendered March 17, 2006
----	PSD Production Increase	0330042-008-AC	----	----	Withdrawn March 17, 2006
ALL	Title V Revision	0330042-009-AV	10/28/ 2005	08/17/2005	Revised October 28, 2005
ALL	Title V Renewal	0330042-010-AV	10/27/2006	10/27/2011	Renewal Permit
050, 051	Softwood Pulp Production Mod.	0330042-011-AC	02/03/2006	02/03/2007	Construction Permit
051,052,063 ,067, 069	Mill Reconfiguration	0330042-012-AC	11/20/2006	11/20/2009	Construction Permit
ALL	Minor Modification	0330042-013-AC	04/14/2008	10/27/2011	Minor Modification
ALL	Title V Revision	0330042-014-AV	03/16/2009	10/27/2011	Revision Permit
063	NCG Handling	0330042-015-AC	01/07/2011	01/07/2016	Construction Permit
ALL	Title V Renewal	0330042-016-AV	09/12/2012	09/12/2017	Renewal Permit
028, 002	Lime Kiln/PB#5 Reduced Testing	0330042-017-AC	07/02/2012	07/02/2017	Construction Permit
001,029,030 ,032,033,03 8,051,052,0 55,063,065, 070,071,072 ,073,067,06 9,066,053,0 62,043,	Operating Limit Change	0330042-018-AC	06/04/2013	06/04/2014	Construction Permit
ALL	Title V Revision	0330042-019-AV	05/04/2014	09/12/2017	Revision Permit

APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/07/96)

Stack Sampling Facilities Provided by the Owner of an Emissions Unit. This section describes the minimum requirements for stack sampling facilities that are necessary to sample point emissions units. Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. Emissions units must provide these facilities at their expense. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

(a) Permanent Test Facilities. The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.

(b) Temporary Test Facilities. The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department and remain on the emissions unit until the test is completed.

(c) Sampling Ports.

1. All sampling ports shall have a minimum inside diameter of 3 inches.
2. The ports shall be capable of being sealed when not in use.
3. The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.
4. For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.
5. On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.

(d) Work Platforms.

1. Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.
2. On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.
3. On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.
4. All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toeboard, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.

(e) Access to Work Platform.

1. Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.

2. Walkways over free-fall areas shall be equipped with safety rails and toeboards.

(f) Electrical Power.

1. A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.

2. If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

(g) Sampling Equipment Support.

1. A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.

a. The bracket shall be a standard 3 inch x 3 inch x one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.

b. A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.

c. The three-quarter inch eyebolt shall be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.

2. A complete monorail or dualrail arrangement may be substituted for the eyebolt and bracket.

3. When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

[Rule 62-297.310(6), F.A.C.]

International Paper Company Pensacola Mill
CAM Plan
Venturi Scrubber for Particulate Matter Control
Updated February 2014

I. BACKGROUND

A. Emissions Unit

Description:	No. 3 Power Boiler
Identification:	033
Facility:	Pensacola Mill

B. Applicable Regulations, Emission Limit, and Monitoring Requirements

Regulation No.:	FAC 62-296.405(1)(b), FAC 62-204.800(7)(b)1, PSD-FL-066, 0330042-018-AC
Uncontrolled Emission Limit:	PM <= 1,864 lb/hr
Controlled Emission Limit:	PM <= 0.1 lb/MMBtu, 6.42 tons/year
Monitoring Requirements:	Delta pressure (inches of water)

Control Technology

Neptune Airpol, Inc. Venturi Scrubber

II. MONITORING APPROACH

The key elements of the monitoring approach are presented below:

A. Indicators

Delta pressure
Scrubber liquid flow rate

B. Measurement Approach

Analytical Devices:	Pressure transducer
Monitoring Locations:	Inlet and outlet to the scrubber

C. Indicator Range

Delta pressure:	Minimum 9.1 inches of water, 3 hour average

D. Performance Criteria

Data Representativeness:	The scrubber delta pressure is measured at Inlet and outlet to the scrubber
QA/QC Procedures:	Calibrate, maintain and operate the delta pressure monitor and flow meter using procedures that take into account manufacturer's specifications.
Monitoring Frequency:	Hourly
Reporting Units:	Delta pressure: inches of water

Recording Process:	The pressure transducers are connected to the plant-wide process logic control (PLC) system. Instantaneous readings of the delta pressure measurements are available
Data Requirements:	The delta pressure measurement is recorded hourly for comparison to the manufacturer's specifications and the three hour running average.

III. JUSTIFICATION

A. Background

The emission unit is the No. 3 Bark Boiler. Particulate emissions are currently controlled by a Neptune Airpol, Inc. Scrubber.

B. Rationale for Selection of Performance Indicators

A venturi scrubber removes particulate matter from an exhaust stream by accelerating the exhaust stream through a narrow throat, and injecting a scrubber liquid. The high velocity of the exhaust stream creates turbulent flow and causes the injected scrubber liquid to atomize into small droplets, thereby increasing the surface area for the particulate matter to contact. The use of a minimum scrubber pressure drop is a good indicator of scrubber performance, as it ensures that enough turbulent flow is present to atomize the scrubber liquid and provide effective removal of the particulate matter from the exhaust stream.

C. Rationale for Selection of Indicator Levels

The selected indicator range is a minimum delta pressure of 9.1 inches of water over a three hour average. This criterion is based on emission testing, practical experience, vendor information, and a limit in a PSD Permit dated May, 1980. Corrective action will immediately follow any excursion from this performance criterion. Such corrective action will be documented and reported to the Agency.

International Paper Company Pensacola Mill
CAM Plan
Venturi Scrubber for Particulate Matter Control
November 2008

I. BACKGROUND

A. Emissions Unit

Description:	No. 4 Boiler
Identification:	037
Facility:	Pensacola Mill

B. Applicable Regulations, Emission Limit, and Monitoring Requirements

Regulation No.:	FAC 62-296.405(1)(b), FAC 62-204.800(7)(b)1, PSD-FL-066
Uncontrolled Emission Limit:	PM <= 3,798 lb/hr
Controlled Emission Limit:	PM <= 0.1 lb/MMBtu, 240.9 tons/year
Monitoring Requirements:	Delta pressure (inches of water)

Control Technology

FMC Type TI280K Venturi Scrubber

II. MONITORING APPROACH

The key elements of the monitoring approach are presented below:

A. Indicators

Delta pressure
Scrubber liquid flow rate

B. Measurement Approach

Analytical Devices:	Pressure transducer
Monitoring Locations:	Inlet and outlet of scrubber

C. Indicator Range

Delta pressure:	Minimum 10 inches of water, 3 hour average

D. Performance Criteria

Data Representativeness:	The scrubber delta pressure is measured at the inlet and outlet to the control device
QA/QC Procedures:	Calibrate, maintain and operate the delta pressure monitor and flow meter using procedures that take into account manufacturer's specifications
Monitoring Frequency:	Hourly

Reporting Units:	Delta pressure: inches of water Scrubber flow: gallons/minute
Recording Process:	The pressure transducers and flow meters are connected to the plant-wide process logic control (PLC) system. Instantaneous readings of the delta pressure and flow meter measurements are available
Data Requirements:	The delta pressure measurement is recorded hourly for comparison to the manufacturer's specifications and the three hour running average.

III. JUSTIFICATION

A. Background

The emission unit is the No. 4 Boiler. Particulate emissions are currently controlled by the FMC Type TI 280K Scrubber.

B. Rationale for Selection of Performance Indicators

A venturi scrubber removes particulate matter from an exhaust stream by accelerating the exhaust stream through a narrow throat, and injecting a scrubber liquid. The high velocity of the exhaust stream creates turbulent flow and causes the injected scrubber liquid to atomize into small droplets, thereby increasing the surface area for the particulate matter to contact. The use of a minimum scrubber pressure drop is a good indicator of scrubber performance, as it ensures that enough turbulent flow is present to atomize the scrubber liquid and provide effective removal of the particulate matter from the exhaust stream.

If the scrubber liquid flow rate falls below the indicator level, the droplet size will increase, and optimum contact between the scrubber liquid and particulate matter in the air stream may not be achieved, and the removal efficiency will decrease.

Secondarily, the Mill monitors scrubber flow to make certain that enough liquid is present to achieve the desired control efficiency.

C. Rationale for Selection of Indicator Levels

The selected indicator range is a minimum delta pressure of 10 inches of water over a three hour average. This criterion is based on emission testing, practical experience, vendor information, and a limit in a PSD Permit dated May, 1980. Corrective action will immediately follow any excursion from this performance criterion. Such corrective action will be documented and reported to the Agency.

The Mill has determined that a scrubber flow of 2000 gpm is typical for normal operation of the scrubber. Lower and higher scrubber liquid flow rates may also be acceptable for operation of the scrubber.

International Paper Company Pensacola Mill
CAM Plan
Wet Scrubber for Particulate Matter Control
November 2008

I. BACKGROUND

A. Emissions Unit

Description:	Lime Slaker
Identification:	G1035
Facility:	Pensacola Mill

B. Applicable Regulations, Emission Limit, and Monitoring Requirements

Regulation No.:	62-296.320(4)(a) FAC
Uncontrolled Emission Limit:	PM <=23.6 pounds/hour. 103.4 tons/year
Controlled Emission Limit:	PM<= 1.59 pounds/hour, 7.0 tons/year
Monitoring Requirements:	Scrubber liquid (mill water) flow rate

Control Technology

Ducor Type UW-4, Model IV Scrubber.

II. MONITORING APPROACH

The key elements of the monitoring approach are presented below:

A. Indicators

Scrubber liquid flow rate.

B. Measurement Approach

Analytical Devices:	Flow meter complete with flow rate monitor.
Monitoring Locations:	Scrubber liquid inlet pipe to the control device.

C. Indicator Range

Scrubber Liquid Flow rate:	Minimum 40 gallons/minute flow

D. Performance Criteria

Data Representativeness:	The scrubber liquid flow rate is measured at the inlet to the control device.
Verification of Operational Status:	Not Applicable.
QA/QC Procedures:	Calibrate, maintain and operate the flow meter using procedures that take into account manufacturer's specifications.
Monitoring Frequency:	Scrubber liquid flow rate-once per shift.

Reporting Units:	Scrubber liquid flow rate – Gallons/minute
Recording Process:	Operators record data manually. Scrubber liquid flow rate is continuously recorded by the mills data accusation system.
Data Requirements:	Scrubber liquid flow rate – The measurement is recorded daily for comparison to manufacturer's specification.

III. JUSTIFICATION

A. Background

The emission unit is the Lime Slaker. Particulate emissions are currently controlled by the Ducon scrubber using mill water as the scrubbing medium.

B. Rationale for Selection of Performance Indicators

Use of a minimum scrubber liquid flow rate is a good indicator of scrubber performance to ensure proper liquid to particulate matter contact for effective removal of the particulate matter from the air stream. If the scrubber liquid flow rate falls below the indicator level, optimum contact between the scrubber liquid and particulate matter in the air stream may not be achieved.

C. Rationale for Selection of Indicator Levels

The selected indicator range is a minimum scrubber liquid flow rate of 40 gallons/minute to the control device. This criterion is based on a performance stack test. Corrective action will immediately follow any excursion from this performance criterion. Such corrective action will be documented and reported to the Agency.

International Paper Company Pensacola Mill
CAM Plan
Wet Scrubber for Particulate Matter Control
Revised November 2008

Lime Slaker: G1035	**Indicator No. 1**	**Indicator No. 2**
I. Indicator	Scrubber liquid flowrate (gallons per minute)	None
Measurement Approach	Flowrate monitoring system including a flowrate monitor and data acquisition system	None
II. Indicator Range	Minimum 40 gallons/minute flow	None
III. Performance Criteria **A. Data Representativeness**	The scrubber liquid flowrate is measured at the inlet to the control device.	None
B. Verification of Operational Status	Title V stack testing.	None.
C. QA/QC Practices and Criteria	Calibrate, maintain and operate the flow meter using procedures that take into account manufacturer's specifications.	None.
D. Monitoring Frequency	Scrubber liquid flowrate once per shift.	None.
Data Collection Procedures	Operators record data manually.	None.
Averaging Period	Not applicable.	None.

International Paper Company Pensacola Mill
CAM Plan
Venturi Scrubber for Particulate Matter Control
Revised March 2006

No. 3 Bark Boiler: 033	**Indicator No. 1**	**Indicator No. 2**
I. Indicator	Delta pressure (inches of water)	None.
Measurement Approach	There are two pressure transducers that are used to make a delta pressure measurement at the inlet and outlet to the scrubber.	None.
II. Indicator Range	Minimum of 9.1 inches of water, 3 hour average, typical delta pressure of 10.5 inches of water.	None
III. Performance Criteria **B. Data Representativeness**	By measuring the pressure at the inlet to the scrubber and at the outlet, a delta pressure reading is determined that can be used to provide a reliable indication of scrubber operation.	None
B. Verification of Operational Status	Title V stack testing.	None.
C. QA/QC Practices and Criteria	Calibrate, maintain and operate the delta pressure monitor using procedures that take into account manufacturer's specifications.	None.
D. Monitoring Frequency	Hourly.	None.
Data Collection Procedures	The pressure transducers are connected to the plant-wide process logic control (PLC) system. Instantaneous readings of the delta pressure measurements are available	None.
Averaging Period	Three hours.	None.

International Paper Company Pensacola Mill
CAM Plan
Venturi Scrubber for Particulate Matter Control
Revised March 2006

No. 4 Boiler: 037	**Indicator No. 1**	**Indicator No. 2**
I. Indicator	Delta pressure (inches of water)	Scrubber liquid flowrate (gallons per minute)
Measurement Approach	There are two pressure transducers that are used to make a delta pressure measurement at the inlet and outlet to the scrubber.	A flow meter is used to measure flow at the inlet to the nozzle of the scrubber.
II. Indicator Range	Minimum of 10 inches of water, 3 hour average, typical delta pressure of 11 inches of water.	Typical scrubber flow is 2,000 gallons per minute.
III. Performance Criteria **C. Data Representativeness**	By measuring the delta pressure, readings can be used to provide a reliable indication of scrubber operation.	By measuring the scrubber flow rate, readings can be used to provide a reliable indication of scrubber operation.
B. Verification of Operational Status	Title V stack testing.	None.
C. QA/QC Practices and Criteria	Calibrate, maintain and operate the delta pressure monitor using procedures that take into account manufacturer's specifications.	Calibrate, maintain and operate the flow meter using procedures that take into account manufacturer's specifications.
D. Monitoring Frequency	Hourly.	Hourly.
Data Collection Procedures	The pressure transducer is connected to the plant-wide process logic control (PLC) system. Instantaneous readings of the delta pressure are available.	The flow meter is connected to the plant-wide process logic control (PLC) system. Instantaneous readings of the scrubber flow rate are available.
Averaging Period	Three hours.	Three hours.

International Paper Company Pensacola Mill
CAM Plan
Adsorption Tower for Sulfur Dioxide Control
Revised March 2006

Thermal Oxidizer: 067	**Indicator No. 1**	**Indicator No. 2**
I. Indicator	Scrubber liquid pH	Adsorption Tower Recirculation Flow
Measurement Approach	Scrubber liquid pH is measured at the nozzles from the recirculation line where the line enters the adsorption tower.	None.
II. Indicator Range	pH range from minimum acceptable pH of 9.9 up to a pH of 14.	291 gallons per minute
III. Performance Criteria **D. Data Representativeness**	The scrubber liquid pH is measured at the inlet to the adsorption tower.	None.
B. Verification of Operational Status	Title V stack testing.	None.
C. QA/QC Practices and Criteria	Routine calibrations, maintenance, and proper operation of the pH meter using procedures that take into account manufacturer's specifications.	None.
D. Monitoring Frequency	Scrubber liquid pH is monitored continuously and reported on a 12-hour rolling average.	None.
Data Collection Procedures	Data are recorded continuously.	Data are recorded continuously.
Averaging Period	12 hours.	None.

Precautions to prevent emissions of unconfined particulate matter:

Area	Emissions Source/ Activity	Control/Precautions
Area 01	Round wood debarking and chipping; Chip handling, conveying, storage, screening, and processing.	A. Chips manufactured on site are screened prior to storage. B. Chips are screened once removed from storage prior to conveying to the digesters. C. Drop distances for chip storage stacker are maintained to a minimum. D. All conveyor systems are covered or enclosed. E. All roadways for ingress or egress are paved.
Area 01	Chip handling, conveying, storage, screening, and processing.	A. Chips manufactured on site are screened prior to storage. B. Chips are screened once removed from storage prior to conveying to the digesters. C. Drop distances for chip storage stacker are maintained to a minimum. D. All conveyor systems are covered or enclosed. E. All roadways for ingress or egress are paved.
Area 11	#5 Bark Tower	The conveyor system is covered or enclosed.
Area 11	Coal Rail Car Unloading Pit	A. The rail car and unloading pit are enclosed. B. If needed, a spray system can be activated over the rail car, the unloading hopper and the hopper conveyor discharge to the stacking conveyor.
Area 11	Coal Pile and Conveyor	A. A limit switch controls the stacker to within 10 feet of the ground or pile when unloading. This minimizes the drop distance. B. The stacking conveyor is covered.
Area 11	Coal Reclaim Conveyor	A. If needed, a spray system can be activated over the underground reclaim conveyor.
Area 24	General Mill Roadways	All roadways in the mill are paved with the exception of the roads in the waste water treatment plant Area 16.
Area 24	Lime Handling Activities/ Loading and Transport	A. Any lime discharged to the ground is picked up and transported to disposal on a daily basis to prevent handling of large volumes.
Area 24	Sandblasting/Paint Removal	A. Enclosures are used around sandblasting in the mill process areas. B. A ten foot curtain surrounds the main sandblasting yard. C. Black beauty with an air water injection system is used in all cases.

PENSACOLA MILL
375 MUSCOGEE ROAD
PO BOX 87
CANTONMENT, FL 32533-0087
PHONE: 850.968.2121

A

Clean Condensate Alternative Key Permitting Elements -12/05/08

The following key elements of the "Side by Side" comparison for MACT I High Volume Low Concentration (HVLC) versus MACT I Clean Condensate Alternative (CCA), have been consolidated into this summary memo for inclusion in the Pensacola Title V Permit as an outline of Initial and Continuous Compliance requirements and demonstration approach.

The Pensacola Mill's Clean Condensate Alternative approach has evolved since early CCA proposals in mid 2003, to include an automated emissions accounting inventory or "bank" system that will allow both the mill and regulatory agency to evaluate compliance status over a wide range of production scenarios and treatment system functionalities.

The Continuous Monitoring System (CMS) and Initial Performance Test have been revised to allow more detailed compliance calculations to be made under a variety of operating scenarios ranging from the current mill profile to the corporation's proposed profile of the facility as a hybrid bleached/brown pulp production facility and, to accommodate a wide range of severe weather and mill upset impacts to the Wastewater Treatment Plant (WWTP). The revised CMS allows seamless calculation of emissions reductions (credits) against HVLC emission debits calculations regardless of the combinations of operating scenarios used at the facility in any given timeframe.

The final credit/debit compliance calculation is proposed to be calculated in tandem with the 15-day rolling period currently used for MACT I Phase I Condensate Collection and under the existing MACT I Phase II CCA agreement referenced in the facility's draft Title V permit. The final CMS includes new capabilities to continuously monitor all major project components that can impact emission credits and debits. The new system has been trialed in parallel with the original monitoring system approach for approximately 3 months and has been demonstrated to provide far more detail in support of the compliance demonstration.

The original 2004 proposal relied on an annualized comparison of credits and debits based on estimated process production in conjunction with individual equipment targets, but did not provide for daily calculations of actual emissions debits and credits from each project component on a continuous basis.

The mill completed a 15 day Initial Performance Test (IPT) on the CCA system starting in mid-January 2006. The results demonstrated significant emissions reduction safety margin over the base case HVLC emission. The IPT results and Notice of Compliance Status (NOCS) were submitted to the FL-DEP prior to the 60-day reporting deadline of March 31, 2006. Updated emissions factors based on the final WWTP design and IPT test data (based on EPA's Water 9 Model), were entered into the Proficy system.

MACT I Phase II Requirements-(CCA) - §63.440 Applicability

§63.440(d)(1) Each kraft pulping system shall achieve compliance with the pulping system provisions of §63.443 for the equipment listed in §63.443 (a)(1)(ii) through (a)(1)(v) as expeditiously as practicable, but in no event later than April 17, 2006, and the owners and operators shall establish dates, update dates and report the dates for the milestones specified in §63.455(b)

§ 63.447 Clean Condensate Alternative

As an alternative to the requirements specified in §63.443 (a)(1)(ii) through (a)(1)(v) for the control of HAP emissions from the pulping systems using the kraft process, an owner or operator must demonstrate to the satisfaction of the Administrator, by meeting all the requirements in § 63.447 (a) through (h), that the total HAP emissions reductions achieved by this clean condensate alternative technology are equal or greater than the total HAP emissions reductions that would have been achieved by compliance with §63.443 (a)(1)(ii) through (a)(1)(v).

The CCA Proposal that Pensacola Mill commits to comply with for MACT I Phase II §63.443 utilizing the § 63.447 Clean Condensate Alternative is as follows

1) **CCA Compliance CMS Commitment #1 – CCA Emission Reduction Credits will be equal or greater than the HVLC Emission Debits as calculated by an automated, continuous CCA Credit-to-HVLC Debit accounting system.**
   - **a.** Credits and Debits will be monitored daily and accrued on a 15-day rolling total for compliance comparison.
   - **b.** Credits and Debits will be based on source specific established emission factors, continuous unit production, and/or other process through-put measurements, in addition, to any activity which significantly impacts credits or debits (such as treatment system failures/diverts).
   - **c.** Any 15-day rolling total negative Credit to Debit value will be recorded as a period of excess emissions.
   - **d.** Each 15-day rolling total resulting in a negative credit value will result in one full day (24hrs) of excess emissions.
   - **e.** While HVLC allows a 4% downtime allowance for excess emissions, no excess emissions allowance percent is requested, however, start-up, shutdown, and malfunction provisions apply.
   - **f.** Reporting will be on a semi-annual basis and will include detailed operations, Trouble/Cause/Correction (TCC) responses for all periods of SSM or non-SSM related excess emissions events.

2) **CCA Compliance CMS Commitment #2 – Automated Calculation Of The MACT I Phase I Condensate Collection Requirement -** The Facility proposes that the MACT I Phase I requirement be calculated by prorating the applicable mass standard for bleached and unbleached pulp products (11.1 LB/ODTP and 7.2 LB/ODTP, respectively), by the ratio of tons of bleached and unbleached ODTP based on a 15-day rolling average.[1]

Example: For 1300 ODTP/Day Production at Varied Bleached/Brown Ratios

Scenario	Bleached-Pulp		Brown-Pulp		Calculated MACT-I Requirement LB/ODTP
	ODTP/Day	% Total	ODTP/Day	% Total	
1	1300	100%	0	0%	11.1
2	1000	76.92%	300	23.07%	10.2
3	650	50%	650	50%	9.15
4	300	23.07%	1000	76.92%	8.1
5	0	0%	1300	100%	7.2

[1] Note- This language is taken from Condition O.5 of the Georgia Pacific, Palatka Facility's Title V Permit Rev. 1070005-029-AV.

Detailed Example Calculations

$$\text{Scenario 2}: \left(\frac{1000}{1300} \times 11.1\right) + \left(\frac{300}{1300} \times 7.2\right) = 10.2$$

$$\text{Scenario 4}: \left(\frac{300}{1300} \times 11.1\right) + \left(\frac{1000}{1300} \times 7.2\right) = 8.1$$

3) CCA EMISSION REDUCTION PROJECTS- The Following Projects are Part of the Clean Condensate Alternative Compliance System. The Premise for the Emissions Reduction of Each Project is Included:

a. WWTP Emission Reduction Projects:

i. **Reduce Methanol Loading to the WWTP** by increasing over-collection of methanol to the No.2 Steam Stripper beyond the MACT I Phase I required 11.1 LB/ODTP. Net volatilization will be reduced, as less methanol enters the large surface area of the WWTP.

ii. Reduce WWTP Surface Area Available for Methanol Volatilization

1. Install Twin Primary Clarifiers - To replace the large surface area 11-Acre Settling Basin as the primary means to remove solids. The Primary Clarifiers are approximately 1-Acre (0.5 Acres each), reducing surface area exposure by 10-Acres under normal operating conditions. The distance from the entrance of the Mill Ditch to the Primary Clarifiers will be shorter and the channels that transport the flow into the clarifiers will be more narrow than the original mill ditch to the 11Acre MSB. The primary transport ditch to the new PC system will therefore have less surface area for volatilization to occur. **(This Project Is Construction Complete And In Service)**

2. **Minimize to the Extent Possible, the Use of the 11-Acre-Multi-purpose Surge Basin (MSB) and M1 Landfill Cell -** For emergency spills, operational upsets, maintenance, and/or storm surge events. Lower emissions reductions credits are available during periods of MSB utilization. The original mill ditch which is longer and wider than the new transport ditch, must be used if flow is diverted before the PCs to the MSB. A higher emission factor is used for the larger ditch during these divert occurrences. Flow can also divert to the MSB after it travels through the PCs, however, this connection is a closed culvert. The distance from the MSB Outlet to the ASB1, or from the PCs to the ASB1 is approximately the same distance, so the volatilization for this leg of the flow pattern is the same in Proficy. **(Proficy is designed to track divert gate status both before and after the PCs to determine the flow path and subsequent volatilization pattern and mass emissions).** During process upsets, the ability to divert the clarifier underflow fiber slurry to the MSB or M1 Landfill Cell is necessary. Clarifier underflow fiber slurry that is diverted travels through closed pipeline. Any underflow divert will be assumed to go to MSB as it is larger than M1

Landfill cell and therefore mass emission will be conservative using a larger surface area basin at the 10.6% volatilization already documented. We would expect the same or less emission if the same material went to M1 Landfill Cell.

b. **Install a New Mill Water Slaker Scrubber-(to replace the original green liquor slaker scrubber, which will reduce methanol stripping associated with methanol content in the green liquor).** Methanol emissions test data was collected both before and after the original scrubber was replaced. The calculation assumes that the full emissions reduction is achieved as methanol is scrubbed from the vent to the sewer using mill water in the new scrubber. Water 9 calculations were used to determine the percent of methanol going into the sewer that would revolatilize in the WWTP system instead of being biodegraded. The revolatilization is subtracted from the net slaker credit before it is added to the total credit bank. These calculations are executed in the mill's Proficy system on a daily basis rolled into 15 day totals. **(The Slaker Scrubber project is complete, in operation and is being monitored in Proficy).**

c. **If deemed necessary for Project Onyx, the Facility may need to install Low Air Infiltration Brownstock Washer Hoods on the No.1 and/or No.2 HWD, 3-Drum BSW Lines, should additional emissions Reductions Credits be required to maintain a Positive Credit Balance under the Onyx Operating Conditions.** If new low flow BSW Hoods are required for the Onyx project, their emission vents will be retested to establish new emission factors to input into the CMS Proficy HVLC debit calculations based on BSW daily production throughput. Installation of the hoods indirectly increases the credit margin, by reducing the HVLC debit (BSW HVLC emissions to atmosphere will be directly reduced with hood installation). As of April 17, 2006, the IPT testing and evaluation demonstrated that the low flow hoods were not needed. However, future mill modifications could change the credit/debit relationship and the hoods may be needed at some point. The mill's Proficy system will be programmed to add in the appropriate factor for the BSW hood credit if needed in the future.

4) **Continuous Monitoring System – Credit/Debit Bank – Daily calculations will document lb/day methanol emissions by the HVLC system based on 2003 air test data developed lb/ODTP emission factors.** While very detailed calculations are shown step by step in Proficy on a daily and 15-day rolling basis, the simplified concept is shown here for reference using only a daily calculation. The following tables illustrate the HVLC Debit calculations and WWTP Credit calculations.

HVLC Debits, Calculation Example:

Source or Line	ODTP/Day	MeOH LB/ODTP	MeOH-Emitted LB/Day
SWD Kamyr System	800	0.014	11.2
SWD O2 System	800	0.296	236.8
HWD -1BSW System	250	0.86	215
HWD- 2BSW System	250	0.86	215
HWD O2 System	500	0.304	152
HVLC Gross Total			830.5
MACT HVLC Required Control (Debit)[2]			813.9

*** This is an example and not representative of specific permit limit values**

[2] Required control of 98% (98% x 1260 = 1234.8)

General Premise For WWTP Emissions Reductions - **Primary Clarifiers** -The EPA Water 9 Model and 40CFR 63 Appendix C Forms (where appropriate), using mill specific methanol test data, documented a net methanol volatilization rate for each of the facility's current and future wastewater treatment system components (pre and post Primary Clarifier install).

Below is a table representing the different WWTP emissions profiles that are possible under the baseline condition, and under the future WWTP arrangement. The emissions difference between the baseline and future operating scenarios represents the available emissions reduction credit:

WWTP Credits, Calculation Example:

- **1300 ODTP/Day Bleached Pulp Production (800SWD/500HWD)**
- **26.5 LB/ODTP or 34,450 LB/Day-Total Condensate Methanol; (the 26.5 LB/ODTP is the mill historical average methanol inventory or: (11.1 +15.4 =26.5 LB/ODTP))**
  - **11.1 LB/ODTP or 14,430 LB/Day: Minimum Methanol to No.2SS for MACT I Compliance**
  - **15.4 LB/ODTP or 20,020 LB/Day: Methanol to WWTP (Starting at the Open Ditch)**
- **In the future the facility will shift more methanol to the No.2SS from WWTP.**
- **The Example shows the WWTP Inlet being reduced from 20,020 LB/Day to 17,550 LB/Day.**

	WWTP-(Baseline) Flow Path	**Future (Normal) WWTP-Flow Path**	**Future (Primary) Bypass Flow Path**	**Future-(Secondary) Bypass Flow Path**
Methanol Fed To WWTP LB/Day	20,020	17,550	17,550	17,550
Water9Air Emission #1	Old Ditch-2.9%	New Ditch-1.01%	New Ditch-1.01%	Old Ditch-2.9%
Water9Air Emission #2	11Acre-S.B.10.6%	Primary Clarifiers-2.15%	PrimaryClarifiers-2.15%	11-AcreS.B./MSB 10.6%
Water9Air Emission #3	Inlet Ditch+ASB1-12.17%	Inlet Ditch+ASB1-12.17%	11-Acre S.B./MSB 10.6%	Inlet Ditch+ASB1-12.17%
Water9Air Emission #4			Inlet Ditch+ASB1-12.17%	
Water9 Net Total % Of Inlet Load Emitted	20.01%	14.93%	23.94%	23.75%
Water9-Total-MeOH LB/Day Air Emission	4006	2620	4202	4169
CCA-WWTP MeOH-Benefit From-Baseline LB/Day	Reduced Emission>	**1387 Normal-WWTP Credit**	-196 Under Primary Bypass Condition	-162 Under Secondary Bypass Condition

***This is an example and not representative of specific permit limit values. Note that greater WWTP volatilization reductions are achieved by 1) reducing overall surface area (PC installation), and 2) by reducing net methanol load into the WWTP (by increasing methanol into No.2SS).**

Credit/Debit Bank, Calculation Example:

Credit/Debit Bank	**Baseline WWTP Emission, LB/Day**	**CCA WWTP Emission, LB/Day**	**CCA Net MeOH Credit LB/Day**
CCA WWTP Credit	**4006**	**2620**	**+1387**
Slaker Credit	**91**	**23**	**+68**
Total MACT CCA Credits			**+1455**
HVLC 98%Debit			**-814**

CCA Daily Ledger			**+641**

5) **Initial Performance Test –Primary Clarifiers –Following installation and start-up of the Primary Clarifiers, and within 180 days of the April 17, 2006 compliance date, the mill will test** methanol values into and out of the ASB over 15 days to confirm the impact of methanol shift from the mass that was previously emitted from the 11-Acre Settling Basin to that biologically treated in the ASB1. The Water 9 and Appendix C emissions profile of ASB1 will be reviewed to confirm that the mill's 15-day credit/debit ratio is not negative over the 15-day period when compared with the HVLC emissions over the same period**. (The IPT was completed starting January 16 through January 31, 2006 and provided a successful compliance demonstration).**
    a. **CMS Application**–The owner or operator shall monitor that the methanol containing wastewaters are flowing through the new Primary Clarifier System, by monitoring:
        i. Minutes/day of valve or gate position/status from the Open Ditch to the: MSB or Primary Clarifier Inlet
        ii. Minutes/day of valve or gate position/status from the Primary Clarifier Outlet to either: The MSB or ASB1.
        iii. Any diversion of methanol-containing wastewaters into the Multipurpose-Surge Basin (MSB) will be calculated as a mass emission to atmosphere and will reduce the value of the maximum daily WWTP credit available.

6) **Initial Performance Test –Slaker Scrubber –Following installation and start-up of the new Mill Water Slaker Scrubber, and within 180 days of the April 17, 2006 compliance date,** the mill will test methanol values out of the scrubber to determine methanol emission reductions compared with 3Q03 Weston Solutions test data collected from the original Green Liquor Slaker Scrubber. Operating parameters shall be set at the time of the test and will include scrubber mill water flow and scrubber water temperature.
    a. **CMS Application**- The emissions reduction factor resulting from the IPT will be entered into the CMS and applied for all minutes of operation that the scrubber maintains the same scrubber mill water flow and temperature maintained during the IPT. No emissions reductions (credits) will be accrued during minutes of operation not meeting the scrubber water flow and temperature conditions set during the IPT. **(The Slaker Scrubber IPT was completed January 16 through January 31, 2006 and provided a successful demonstration of methanol removal. The emission factors and calculations were updated in Proficy to reflect the IPT results).**

Notes:

1) **40 CFR 63.453(g) through (g)(3)-MACT I Phase I Steam Stripper Continuous Monitoring Requirements Applicable To CCA** –- The No.2 Steam Stripper shall be operated in accordance with MACT I Phase I requirements and will continue to collect 11.1lb/ODTP of methanol on a 15-day rolling average and will maintain a 92% or greater methanol removal. Effective steam ratio will be monitored continuously according to procedures outlined in the facility's approved alternate monitoring plan the No.2 Steam Stripper. The CMS will document any 3-Hour Rolling Average effective steam ratio that correlates to a 3-hour rolling average treatment efficiency below 92%. The CMS will document any period of downtime or effective steam ratio failure that exceeds the 10% semi-annual allowance as a period of unallowable excess emissions.
2) **The mill will continue to collect a daily composite of the condensate feed to the No.2 Steam Stripper to determine the total methanol collected both for MACT I Phase I and Phase II CCA calculations.** The sample(s) will be analyzed at a certified laboratory and the results applied to the methanol lb/ODTP calculations **(**Note: The approach and control logic are unchanged from the initial April 2002 MACT I Phase I compliance date).
3) **General Clean Condensate Alternative Equivalence**- Initial proposal emissions comparisons were based on lb/ODTP and ODUBTP/Yr based on an annualized mill production basis of 1310 ODTP/day or (1310 ODTP/day*365 days/yr=478150 ODUBTP/yr).

The daily CMS will apply actual LB/ODTP emission factors based on site specific testing multiplied by actual line production to yield actual LB/Day methanol emissions credits and debits.

4) **April 8, 2004 Clean Condensate Alternative Guidance Document Commitment Regarding Additional Named Stream Condensate Collection** -The owner or operator will commit to collect additional condensate margin required to justify the averaging period.
5) **The HVLC Debits** will be calculated using the Weston Solutions Inc. source specific emissions data collected in July/August 2003 HVLC/CCA Scoping Study**.**
6) **The CCA Credits** will be based on daily WWTP operating status, No.2 Steam Stripper methanol over-collection and operating status, Slaker Scrubber utilization with fresh water and BSW hood installation (the latter, only if needed).
7) **Water9 Emissions Take Into Account: D**ownstream impacts to the ASB biological system, as well as periods when the CCA over-collection is returned to the sewer during periods of No.2 Steam Stripper Downtime. No CCA emission reductions are being claimed for any volatilization differences resulting from current or future upgrades of the Aerated Stablization Basins (ASB1 or ASB2).
8) **General Premise For WWTP Emissions Reductions** - **Primary Clarifiers** -The EPA Water 9 Model and 40CFR 63 Appendix C Forms (where appropriate), using mill specific methanol test data, were used to document the net methanol volatilization rate for each of the facility's current and future wastewater treatment system components. The emissions difference between the baseline and future operating scenarios represents the available emissions reduction credit:

PENSACOLA MILL CLEAN CONDENSATE ALTERNATIVE- Continuous Monitoring System-Proficy Simulation

CMS With 15 Day Rolling Totals; Future Onyx Scenarios Can Be Simulated			
Model Update 12/05/08		Date/Time	19-Mar 07:00
		Mill Day	18-Mar-06
			< 15 days
HVLC MeOH Debits			
Daily Oven Dry Unbleached Pulp Production	Units	Constants	
SWD O2 System -Pulp Tons	ODTP/Day		933.9
SWD Kamyr System-Pulp Tons	ODTP/Day		933.9
HWD O2 System-Pulp Tons	ODTP/Day		384.5
HWD 1 BSW System -Pulp Tons	ODTP/Day		192.3
HWD 2 BSW System-Pulp Tons	ODTP/Day		192.3
Daily Total Digester Pulp Tons	ODTP/Day		1318.4
Total Bleached Pulp Tons	ODTP/Day		1318.4
Total Brown Pulp Tons	ODTP/Day		0.0
Total Percent Bleached	Percent%		100%
Total Percent Brown	Percent%		0%
Daily HVLC System MeOH Emission Factors			
SWD O2 System-Emission Factor	LB/ODTP	0.296	0.296
SWD Kamyr System-Emission Factor	LB/ODTP	0.014	0.014
HWD O2 System-Emission Factor	LB/ODTP	0.304	0.304
HWD 1 BSW System- Emission Factor	LB/ODTP	0.860	0.860
HWD 2 BSW System-Emission Factor	LB/ODTP	0.860	0.860
Daily HVLC System MeOH Emission Mass Debits			
SWD O2 System -Mass Debit	LB/Day		276.7
SWD Kamyr System-Mass Debit	LB/Day		13.3
HWD O2 System- Mass Debit	LB/Day		116.9
HWD 1 BSW System-Mass Debit	LB/Day		165.4
HWD 2 BSW System-Mass Debit	LB/Day		165.4
Daily Combined HVLC MeOH Emission Mass Debit			
Daily HVLC MeOH Gross Mass Debit	LB/Day		737.6
Daily HVLC MeOH Net Mass Debit @ 98% Control	LB/Day		722.8
Total 15-Day HVLC MeOH Net Debit @ 98% Control	LB/15-Day		-
Baseline Influent MeOH To WWTP (Pre-CCA)			
WWTP Baseline Influent MeOH @ SS,11.1 Lb&26.5Lb/T	LB/ODTP	15.40	**15.40**
Total Digester Pulp Tons (replicated row)	ODTP/Day		1318
WWTP Baseline Influent MeOH Mass Feed	LB/Day		**20,303**
Baseline WWTP Influent MeOH To Atmosphere (Pre-CCA)			

Ditch -Baseline Mass Emission	LB/Day	@2.9%	588.8
Settling/MSB Basin -Baseline Mass Emission	LB/Day	@10.6%	2,089.7
Settling/MSB Basin - Baseline Anaeobic Activity	LB/Day	@31.7%	6,249.5
WWTP Primary Clarifier Volatil. (Does Not Exist In Baseline)	LB/Day	n/a	0
ASB1-Baseline Mass Emission	LB/Day	@10%	1,384.4
WWTP-Baseline -Mass Emission-Total	LB/Day		**4,062.9**
Total 15-Day WWTP Baseline Mass Emissions	LB/15-Day	-	-
Current Influent MeOH To WWTP(Post CCA)			
MACT I Condensate Collection Reqmnt, Automated Calc.	LB/ODTP		11.1
Mill Long Term Total Inventory (Adjusts For Brown vs Bleached)	LB/ODTP		26.5
MeOH Collected To No.2SS (Adjusts For Brown vs Bleached)	LB/ODTP		14.0
WWTP Current Inflnt (Mill Long Term Total - No.2SS=Inflnt)	LB/ODTP		**12.5**
Total Digester Pulp Tons (replicated row)	ODTP/Day		1,318.4
WWTP Current Influent MeOH; Total Mass Feed	LB/Day		**16,519.6**
Current WWTP Influent MeOH To Atmosphere(Post CCA)			
POST IPT (Current) WWTP WATER9 MeOH Volat.Emis.Factors			
Old MSB Ditch Water9 Strip Percent	Percent%	2.90%	2.90%
New PC Ditch Water9 Strip Percent	Percent%	1.01%	1.01%
Primary Clarifier Water9 Strip Percent (fixed)	Percent%	2.15%	2.15%
Settling/MSB Basin Water9 Strip Percent	Percent%	10.60%	10.60%
Settling/MSB Basin Anaerobic Activity Percent	Percent%	31.70%	31.70%
ASB1 -Water9 Strip Percent	Percent%	12.17%	12.17%
Ditch MeOH Emission Calculations			
Ditch Mass Emission - SS Running- to PC	LB/Day		166.8
Ditch Mass Emission - SS Down- to PC	LB/Day		0.0
Ditch Mass Emission - SS Running- Divert to MSB	LB/Day		0.0
Ditch Mass Emission - SS Down- Divert to MSB	LB/Day		0.0
Ditch Mass Emission - Total	LB/Day		**166.8**
Primary Clarifier MeOH Emission Calculations			
PC Mass Emission- SS Running	LB/Day		351.6
PC Mass Emission- SS Down	LB/Day		0.0
PC Mass Emission Total	LB/Day		**351.6**
Multipurpose Settling Basin (MSB) MeOH Emission Calculations			
MSB Mass Emission- SS Running- Ditch Divert To MSB	LB/Day		0.0
MSB Mass Emission- SS Down- Ditch Divert To MSB	LB/Day		0.0
MSB Mass Emission- SS Running- PC Divert To MSB	LB/Day		0.0
MSB Mass Emission- SS Down- PC Divert To MSB	LB/Day		0.0
MSB Mass Emission- Total	LB/Day		**0.0**
ASB MeOH Emission Calculations			
ASB Mass Emission- SS Running- No Diverts	LB/Day		1,947.3
ASB Mass Emission- SS Down- No Diverts	LB/Day		0.0
ASB Mass Emission- SS Running- Ditch Divert To MSB	LB/Day		0.0
ASB Mass Emission- SS Down- Ditch Divert To MSB	LB/Day		0.0

ASB Mass Emission- SS Running- PC Divert To MSB	LB/Day		0.0	
ASB Mass Emission- SS Down- PC Divert To MSB	LB/Day		0.0	
ASB Mass Emission - Total	LB/Day		**1,947.3**	
PC Underflow Slurry To MSB Emission Calculation				
PC Undrflw Slurry Divert to MSB minutes open	Min/Day		240	Manual Entry
PC Undrflw to MSB Max Pump Flow	Gal/Min		3000	Max Pump Design from PC Underflow to MSB/M1
PC Undrflw to MSB Max Volume Delivered	Gal/Day		720,000	Max Based on Pump Design from PC Underflow to MSB
Total Mill Max Est WWTP Inlet Flow	MGD		20,000,000	Repeating (variable) Constant
PC Undrflw Flow Ratio to Total Mill WWTP Flow	Ratio		0.036	Calculation
15-Day Mass MeOH to WWTP Inlet (Total Mill - SS Feed MeOH)	LB/Day		18,500	Existing CCA Proficy Variable
PC Undrflw Flow Weighted Ratio Mass to MSB	LB/Day		666	Amount of Methanol going to MSB in Underflow Fiber Slurry
PC Undrflw Flow To MSB Documntd Vol% to Atmosphr	Percent%		10.6%	Existing Proficy Variable
PC Undrflw Flow To MSB Documntd Mass to Atmosphr	LB/Day		**70.6**	Calculation of Emissions to Atmosphere
Current Day WWTP Atmospheric Emissions (Gross Daily Of Ditch,PC,MSB & ASB)				
Daily Total WWTP Mass Emissions - Gross	LB/Day		2,536	
Total 15-Day WWTP Mass Emissions - Gross	LB/15-Day		-	
Slaker Fresh Water Scrubber Emission Reduction Credits				
Slaker Scrubber Emission Reduction Factor	LB/ODTP	**0.070**	0.070	
Slaker Scrubber Mass Emission Reduction Credit	LB/Day		92.3	
Ditch Emission from Slaker	LB/Day		2.7	
PC Emission from Slaker	LB/Day		1.9	
MSB Emission from Slaker	LB/Day		9.3	
ASB Emission from Slaker	LB/Day		9.5	
Daily Total Slaker Scrubber Credit	LB/Day		23.4	
Slaker Gross Red.- Re-Emission = Net Air Emission Red. Credit	LB/Day		68.9	
15-Day Slaker Scrubber Emission Reduction Credit	LB/15-Day		-	
Credit, Debit Bank 15-Day Rolling Total Ledger				
Total 15-Day WWTP Baseline Mass Emissions	LB/15-Day		-	
Total 15-Day WWTP Mass Emissions - Gross	LB/15-Day		-	
Total 15-Day WWTP Emissions Reductions Net Credit	LB/15-Day		-	
15-Day Slaker Scrubber Emission Reduction Credit	LB/15-Day			
Total 15-Day BSW New Hood Credit (Not Installed/Contingency)	LB/15-Day			
Tot 15-Day CCA Credit (WWTP + Slaker)	LB/15-Day			
Total 15-Day HVLC MeOH Net Debit @ 98% Control	LB/15-Day		-	
Tot 15 Day MeOH CCA Safety Margin + Slaker Credit	LB/15-Day		-	

Note: Green cells allow user inputs. White cells are locked (as they are fixed or calculated numbers).

Will turn Red on entry error

Model Inputs: Simulate Mill Production, Brown To Bleached Ratio, Steam Stripper Run Tim

Daily Oven Dry Unbleached Pulp Production		Range(s)	
Pine Kamyr System-Pulp Tons , Current Avg < 1000 ODTP/d	ODTP/Day	0 to 2000	933.9
Hardwood O2 System-Pulp Tons , Current Avg <400 ODTP/d	ODTP/Day	0 to 2000	384.5
Percent Brown Pulp Tons (Note 1) Assumes 100% Blchd unless Brwn% entrd)	Percent%	0 to 100%	0%
Current Daily No.2 Steam Stripper MeOH Divert Status			
Cond Collection Running Time (No Input, fixed, (note 3))	Min/Day	1440	1440
No.2SS Daily Running Time	Min/Day	0 to 1440	1440
SS Running Ratio (No input, calculated)	MinSS/MinCC	Calculated	1.0000
15 Day Avg. - MeOH Collected To No.2SS (Note 2), [Averages > 11.1lb/OI	LB/ODTP	0 to 16	13.97
Current Daily Use Of Multisurge Basin (MSB)			
Daily Divert at Mill Ditch to MSB (Note 4)	Min/Day	0 to 1440	0
Ditch to MSB Divert Ratio (No input, calculated)	Min/Day	Calculated	0.000
Daily Divert at Primary Clarifier Outlet to MSB (Note 4)	Min/Day	0 to 1440	0
PC Outlet to MSB Divert Ratio (No input calculated)	Ratio	Calculated	0.000

Model Input Notes:

1) Assumes 100% Bleached For Tonnage Selected Unless User Indicates A Brown Percent , (Total Tons - Brown Tons = Bleach Tons)

2) Current No.2Steam Stripper averages > 11.1LB/ODTP; range can be from 0 to 16LB/ODTP; embedded calculations automatically adjust the entered Condensate Collection Value to account for any hybrid pulping scenarios entered. The revised number is entered under current WWTP calculations on line 53.

3) Condensate Collection Run Time will coincide with Pulp/Evaporation Uptime, but is fixed at 1440 minutes for the simulation

(4) The combined minutes entered for Ditch to MSB and/or PC To MSB cannot exceed 1440 minutes total, per day.
(Influent can only be diverted from one of the two divert locations in any given minute)

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NCG Contingency Plan

This plan fulfills the requirements of rule 62-296.404(3)(a)(3) F. A. C. for International Paper's Pensacola Mill.

For the purposes of this plan, the following definitions apply:

> *Essential Maintenance* – Any unscheduled maintenance arising from equipment failures or breakdowns, any predictive-preventive maintenance necessary to prevent unexpected breakdowns and any regular scheduled maintenance required to preserve in good operating condition the non-condensable gas (NCG) collection system, stripper off gas (SOG) collection system, Thermal Oxidizer or Lime Kiln.
>
> *Uncontrolled Total Reduced Sulfur (TRS) Emissions* – Any venting of the combined total of all NCG or SOG gases. Venting of a portion of these gas streams that occurs when the mitigation procedures described below are in effect will not constitute uncontrolled TRS emissions.
>
> *Reportable Venting Incident* – Any uncontrolled TRS emissions of any duration or any mitigated TRS emissions (as described below) greater than two hours in duration or any TRS emissions over the 1% semi-annual allowance provided by 40 CFR 63.443(e)(1).

Total reduced sulfur emissions shall not be vented to the atmosphere at any point connected to or between the emissions unit and the control device except in the event of an emergency that presents a danger to life or property, or during those times when the control device is shut down for essential maintenance.

In the event that reportable venting incident does occur, International Paper shall notify the Florida Department of Environmental Protection (the Department) verbally by the close of the Department's next working day. The owner shall provide the Department with a written report as required by Rule 62-210.700, F.A.C. If the next quarterly report is due to the Department sooner than 30 days after the first day of a reportable venting incident, the report on that incident may be filed with the quarterly reports for the following quarter. All venting of TRS gases is reported in the semi-annual Excess Emissions and CMS Performance Report required by 40 CFR 63 Subpart S

<u>Primary and Backup TRS Control</u>
In order to control the impact of TRS emissions, International Paper has installed both primary and backup systems for the TRS control. The primary control device is the Thermal Oxidizer. The backup control device is the Lime Kiln. The NCG and SOG collection systems automatically route the gases from the Thermal Oxidizer to the Lime Kiln in the event of a failure of the Thermal Oxidizer. When essential maintenance is

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scheduled for the Thermal Oxidizer, the NCG and SOG gases are treated in the Lime Kiln. The Lime Kiln and Thermal Oxidizer shall not be taken offline simultaneously when any NCG or SOG gases are being produced except in the event of an emergency that presents a danger to life or property.

Mitigated TRS Venting

In the event that both control devices are unable to treat NCG and/or SOG gases International Paper will take steps to mitigate TRS emissions by following the guidelines in the Pensacola Mill's NCG Venting Procedure. In the event of localized TRS emissions from an emitting unit normally collected by the NCG or SOG collection systems the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period without initiation of shutdown, or unless specifically authorized by the Department for longer duration.

INTERNATIONAL PAPER CORPORATION
PENSACOLA MILL

MACT I AND MACT II

STARTUP, SHUTDOWN, AND MALFUNCTION PLAN

Prepared by: **International Paper Corporation**

N***ovember 2008***

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1. GENERAL INTRODUCTION

1.1 PURPOSE

It is the policy of International Paper and the Pensacola Mill to manage personnel and operations in full compliance with environmental laws and regulations, and in a manner that will minimize the potential impact on the environment.

This Startup, Shutdown and Malfunction (SSM) Plan outlines the management systems and procedures for implementation at this facility as required by federal regulation 40 CFR 63.6(e). The objective of the plan is to document procedures that minimize the release of hazardous pollutants during periods of startup, shutdown and malfunction of emission sources, associated pollution control equipment and monitoring equipment. During startup and shutdown, good safety and air pollution practices will be invoked to the greatest extent practicable to ensure compliance with the emission limitations in the applicable standard. If this is not possible, the actions outlined in this plan will be invoked to minimize emissions to the greatest extent practicable.

This SSM plan will be updated within 45 days of an event that is not addressed or is inadequately addressed in the plan. The plan will be revised when there is a change in mill design, construction, operation, or maintenance that materially affects the potential for emissions to exceed regulated limits. The plan will be retained for the life of the affected source. Superseded versions of the plan will be retained for a period of 5 years. This plan will be made available upon request to the Florida Department of Environmental Protection (FDEP) and/or EPA Region IV.

1.2 REGULATORY REQUIREMENTS

The U.S. EPA has published various National Emission Standards to control the release of Hazardous Air Pollutants (HAPs) to air and water from the pulp and paper industry. These emission standards are published in the Code of Federal Regulations at:

- 40 CFR 63, Subpart S - Pulp and Paper Industry NESHAP (also referred to as the Cluster Rule or MACT I)
- 40 CFR 63, Subpart MM - Chemical Recovery Combustion Sources NESHAP (also referred to as MACT II)

Sources regulated by each of the above subparts are also required to meet the General Provisions, promulgated at 40 CFR 63, Subpart A. The General Provisions codify general procedures and criteria for implementing the emission standards in each of the industry specific subparts. The requirements for developing a written Startup, Shutdown and Malfunction (SSM) Plan are fragmented throughout the General Provisions and within the individual subparts as follows:

§63.2 - Definition of startup, shutdown and malfunction
§63.6(e) - Operation and maintenance requirements
§63.6(e)(3) - SSM plan purpose and requirements
§63.6(f) - Statement that non-opacity standards apply except during SSM events
§63.6(h) - Statement that opacity standards apply except during SSM events
§63.8(c) - Operation and maintenance of continuous monitoring systems (CMS)
§63.10(b)(2) - SSM recordkeeping
§63.10(c) – Additional recordkeeping requirements for sources with CMSs
§63.10(d)(5)(i) – Periodic SSM reporting requirements
§63.10(d)(5)(ii) – Immediate SSM reporting requirements
§63.866 (a) – Startup, Shutdown and Malfunction plan (MACT II)

This SSM Plan has been developed to address all of the MACT regulated systems including the associated process equipment, air pollution control equipment and continuous monitoring equipment.

The purpose of this plan is to:

1.) Ensure at all times that *emission sources*, including associated *air pollution control equipment* and *monitoring equipment*, are operated in a manner consistent with safety and good air pollution control practices for minimizing emissions.

2.) Ensure malfunctions are corrected as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants (or in the case of continuous monitoring systems, ensure malfunctions are corrected as soon as practicable in order to minimize downtime).

3.) To identify the Mill's reporting requirements for periods of startup, shutdown, and malfunction including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation.

Excess emissions during startup and shutdown refer to non-typical emissions from initiating and stopping manufacturing process operations. Malfunctions refer to excess emissions occurring outside of the ability to reasonably control upset conditions and equipment failures. The regulatory definitions for startup, shutdown and malfunction are:

Startup - The setting in operation of an affected source for any purpose.

Shutdown - The cessation of operation of an affected source for any reason.

Malfunction - Any **sudden**, **infrequent** and **not reasonably preventable failure** of air pollution control and monitoring 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.

Deviations from the SSM plan are allowed only in those instances where the plan does not address or inadequately addresses good pollution control practices or when it is necessary to prevent loss of life, personal injury or severe property damage. Regardless of whether the plan has or has not be deviated from, actions must be taken *as soon as practicable*: 1) to minimize the period of excess emissions and operating parameter exceedances, and 2) to minimize periods of CMS downtime.

1.3 PLAN MAINTENANCE AND UPDATES

The Environmental Department maintains a hard copy of this Plan. An electronic copy of the most recent SSM Plan is located on the Mill's intranet site for accessibility in all operating areas. The Environmental Engineer responsible for air compliance has the overall responsibility to ensure that the Plan is maintained and updated as required by the rules (see Section 1.1). The Environmental Engineer works with the Area Process Managers to obtain the information needed to maintain and update the Plan. The Pensacola Mill's standard approach that outlines the procedures for modifying the SSM Plan for a given system is detailed below:

- Area Process Managers notify the Environmental Engineer immediately when procedures inconsistent with the Plan must be incorporated to respond to an SSM event.
- Area Process Managers track the MACT regulated equipment and systems in the Area and notify the Environmental Engineer in the event that the systems will change in any fashion that affects the validity of the Plan.
- The Environmental Engineer updates the Plan consistent with the new procedures or systems. The updated Plan must be clearly labeled with the revision date.
- The Environmental Department maintains one copy of the earlier versions of any Plan revisions.

The Pensacola Mill's document control system procedures are applicable to this Plan. However, all earlier versions of the Plan that have been subsequently revised will be maintained by the Environmental Department for a period of five years.

1.4 STANDARD OPERATING PROCEDURES, EQUIPMENT MALFUNCTION CLASSIFICATIONS AND EQUIPMENT MAINTENANCE PROGRAM

1.4.1 REFERENCE TO STANDARD PROCEDURES and Equipment Malfunction Classifications

Certain sections of this SSM Plan reference other Pensacola Mill documents, including preventative maintenance procedures, standard operating procedures for equipment and systems, and other similar mill documents. When referring to other documents, this SSM Plan is referring to the most recent version of any such applicable document and is only referring to the portions of the referenced document that are specifically applicable to the equipment or system to which the relevant portion of this SSM Plan is directed.

In addition, certain equipment malfunction classifications that result in MACT excess emissions are referred to throughout this document. Therefore, in this document, these equipment malfunction classifications shall have the general meaning given to them as follows:

- **Electrical Malfunction** – Refers to the loss or interruption of electrical power serving equipment associated with a particular process.
- **Mechanical Malfunction** – Refers to the loss of mechanical components of a system such as pumps, motors, drives, etc.
- **Process Malfunction** – Refers to an upset condition caused by process variability such as loss of steam flow, K number out of range, plugged lines/reactors, etc..
- **Instrument/Process Control Malfunction (PCS)** – Refers to the inability of the process logic controller (digital or analog), process monitoring equipment, or distributive control system equipment to perform a required task.

1.5.2 Equipment Maintenance Program

In accordance with □63.6(e), all process equipment, pollution control equipment and continuous monitoring systems affected by the SSM requirements will be operated and maintained in such a

fashion as to minimize emissions (*general duty*). Mill production and maintenance departments have the responsibility to ensure that equipment repairs are made in an expeditious manner.

1.5.2.1 Maintenance Tracking Database

A maintenance tracking database will be used to track the maintenance history of the equipment identified as potentially impacting the MACT standard, "critical" equipment. Examples include:

- pollution control equipment (specified by the standard),
- continuous monitoring systems (specified by the standard),
- process equipment, i.e., equipment failures known to create excess emissions (specified by the general duty clause),
- process surrogate parameters for detecting excess emissions (specified by the general duty clause).

Critical pieces of equipment will be "flagged" in the maintenance database and may be subject to one or more of the following types of maintenance:

- Preventative Maintenance
- Shutdown Maintenance
- Emergency Maintenance
- Mill Outage Maintenance
- No-destructive Testing (mechanical integrity)
- Vibration Analysis

The maintenance frequency will be based on the manufacturer's recommendations, equipment history, or the industry standard. Adjustments in the frequency will be made as necessary. Mechanical problems identified during basic care routes will be identified in the work request system and repaired at the next available opportunity or during the next shutdown depending on the severity of the problem and the potential environmental impact.

1.5.2.2 Work Request System

Work requests will be used to document all maintenance of critical equipment (including emergency and unscheduled repairs) as required by □63.8(c)(1)(i) and □63.10(b)(2)(iii), (x), (xi). When a work order is complete, the instrument electrician or mechanic must clearly indicate on the work order his/her *name, date* and what (if any) *problems* were identified. The acting area maintenance supervisor must sign his/her name certifying that the PM route has been properly completed. Completed work orders will be retained on file by each maintenance process manager for a period of 5 years [□63.10(b)].

1.5.2.3 Delinquent Reports

If a PM has not been completed by the due date, the maintenance tracking database (SAP) interface will indicate the due date, status and keep it on the schedule until complete.

1.5.2.4 Spare Parts

Sufficient spare parts must be readily available at all times to ensure timely repair or replacement of critical equipment and CMS instruments [63.8(c)(1)(i)]. The spare parts maintained onsite will be based on manufacturer recommendations and/or equipment history. Spare parts maintained are indicated in SAP and are automatically restocked once used.

1.5.2.5 Continuous Monitoring Systems

All CMS's specifically required by the NESHAP standard will be calibrated, operated and maintained according the manufacturers specifications. Calibration checks, adjustments and maintenance are documented by the work request system and/or the CEMS monitor downtime logbooks.

1.5.2.6 Equipment Modifications

All process modifications and changes to affected equipment will be evaluated to determine the possible impact to ant regulated system described in the plan (i.e., LVHC collection and treatment, foul condensate collection and treatment, bleach plants, etc.). An environmental checklist will be completed for capital projects and routed through the appropriate approval process. Indirect work requests will be reviewed by the production area superintendent or area maintenance manager (or designee) for possible SSM plan implications.

1.5 PLAN ORGANIZATION AND CONTENT

The SSM Plan has been organized into two parts to correspond to the MACT I and MACT II affected sources at the mill. Within these parts, each system regulated under the MACT rules are addressed and an individual SSM Plan is identified. The following information is summarized for each Regulated system:

- *Process Descriptions* – Includes individual subsections for each of the Mill's MACT regulated areas. Each subsection includes an overview of the regulated systems in the area and details for the process equipment, pollution control equipment and continuous monitoring systems in the area including simple process flow diagrams showing pertinent details.
- *Process Operating Time* – Process operating time or time when there is a Potential to Emit (PTE) has been defined for each regulated source. The Proficy System is an electronic database programmed to "poll" the process for excess emissions and CMS downtime only while the process is running i.e., only during periods when the PTE = CAN EMIT. No hazardous air pollutants would be emitted in a CAN NOT EMIT state.

- *SSM Events* – Includes subsections for each of the Mill's MACT regulated areas that include important definitions, provide details for process-specific SSM events and corrective actions.
- *CMS Events* – Includes tables for each of the Mill's CMS variables on MACT regulated treatment devices that provide details for process-specific CMS events and corrective actions.

1.6 RECORDKEEPING REQUIREMENTS

Recordkeeping and Reporting is required by the MACT Rules to document that proper procedures are followed during Startup/Shutdown and Malfunction events. The procedures outlined below should be followed to ensure that such events are excluded from excess emissions determinations.

1.6.1.1 Recordkeeping Provisions

The Pensacola Mill must keep records of the following events:

- The occurrence and duration of each startup, shutdown, or malfunction event of operation for the regulated process equipment.
- The occurrence and duration of each malfunction of the air pollution control equipment;
- All maintenance performed on the air pollution control equipment;
- Actions taken during periods of startup, shutdown, and malfunction when such actions are different from the procedures specified in this SSM Plan, including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation;
- All information necessary to demonstrate conformance with this SSM Plan when all actions taken during periods of startup, shutdown, and malfunction are consistent with the procedures; and

- Each period during which a CMS is malfunctioning or inoperative, including out-of-control periods.

The following General Recordkeeping Requirements should also be addressed:

- The mill maintains files of all information (including all reports and notifications) required with the environmental files located in the EH&S Department. The files must be readily available for expeditious inspection and review.
- Files may be maintained in a hardcopy or electronic format for a period of 5 years.

1.6.1.2 International Paper Recordkeeping Techniques

International Paper has developed an electronic tracking/reporting database call Proficy to satisfy the recordkeeping requirements associated with SSM Plans. The electronic database is integrated with process control computers and instrumentation to identify and record startup/shutdown conditions, excess emission conditions and CMS downtime events. Logic has been developed utilizing process control computers and the mill's Plant Information (PI) system to electronically determine when processes begin to have and cease to have the potential to emit pollutants. If a vent valve opens during a period when the process logic determines there is the potential to emit pollutants, an event log will be activated in the electronic database. If a vent valve opens when the PI logic for potential to emit is not satisfied (process has no potential to emit), no action is taken.

The electronic database, Proficy, will require operators to answer a series of questions and input comments when SSM events are triggered. In the comments section the operators will be required to provide specific information regarding the actual cause and corrective actions taken. The operator will also be required to input a work request into the maintenance tracking database with equipment identification if equipment repairs are needed. The maintenance information will be used to track equipment maintenance history. The Environmental Engineer will review

information input by the operators to make sure we do not have a recurring problem that should be addressed through process/equipment changes. Information in the database will be used by the Environmental Engineer to compile the requisite reports as outlined in the following subsection.

1.7 REPORTING REQUIREMENTS

1.7.1.1 Periodic Startup, Shutdown, and Malfunction Reports

The Mill's SSM Coordinator conducts the following reporting activities for actions during a startup, shutdown, or malfunction that occur during the specified reporting period (e.g., quarter) of a MACT regulated system. This includes actions taken to correct a malfunction that are consistent with the procedures specified in this SSM Plan.

- *Periodic SSM Report Contents:*
  - A cover letter including the name, title, and signature of the responsible Mill official who is certifying its accuracy.
  - A summary of the SSM events during the reporting period and duration of each event.

- *Submittal Requirements:*
  - Postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate).

1.7.1.2 Immediate Startup, Shutdown, and Malfunction Reports

The Mill's SSM Coordinator will submit an Immediate Startup, Shutdown, and Malfunction Report at any time an action taken during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the SSM Plan.

Immediate SSM Report Contents:

- A cover letter containing the name, title, and signature of the responsible Mill official who is certifying its accuracy.
  - The circumstances of the event.
  - The reasons for not following the SSM Plan.
  - The occurrence of any excess emissions and/or parameter monitoring exceedences.

- *Submittal Requirements:*
  - Immediately report via a telephone call or a facsimile transmission to the Administrator within two (2) working days after commencing actions inconsistent with the plan.
  - Submit a follow-up letter within seven (7) working days after the end of the event.

1.7.1.3 CMS Reporting Requirements

The Mill's SSM Coordinator reports the following CMS related SSM items for those malfunctions or other events that affect the CMS and are <u>not addressed</u> by the startup, shutdown, and malfunction plan:

- *Immediate CMS Report Contents:*
  - A cover letter containing the name, title, and signature of the responsible Mill official who is certifying its accuracy.
  - The circumstances of the event.
  - The reasons for not following the SSM Plan.
  - The actions inconsistent with the SSM Plan.
  - The occurrence of any excess emissions and/or parameter monitoring exceedences.

- *Submittal Requirements:*
  - Immediately report via a telephone call or a facsimile transmission to the Administrator within 24 hours after commencing actions inconsistent with the plan.

- *Follow-up CMS Report Contents:*
  - A cover letter containing the name, title, and signature of the responsible Mill official who is certifying its accuracy.
  - The circumstances of the event.
  - The reasons for not following the SSM Plan.
  - The actions inconsistent with the SSM Plan.
  - Certification that corrections have been made or a Corrective Action Plan and Schedule has been prepared and implemented.
  - Proof that repair parts have been ordered or any other records that would indicate that the delay in making the repairs is beyond his/her control.

- *Submittal Requirements:*
  - Submit the follow-up letter within two (2) weeks after the end of the event.

PART I

MACT I SOURCES

40 CFR 63, Subpart S – Pulp and Paper Industry NESHAP

2. PULP MILL SYSTEMS

2.1 KAMYR DIGESTER SYSTEM

2.1.1 PROCESS DESCRIPTION

The Kamyr Digester System at the Pensacola Mill is a continuous digester process used for pulping wood. The system includes a series of process units into which wood chips, white liquor and steam are continuously fed producing pulp and weak black liquor. The chips are fed by conveyor into the chip bin and then metered into a low-pressure feeder to a steaming vessel where fresh steam and/or flash steam from the process is introduced to preheat and soften the chips. From the steaming vessel, the chips are transferred via a high-pressure feeder to the impregnation vessel. White liquor is introduced into the high pressure feeder and the impregnation vessel and the chips, impregnated with the white liquor, are subsequently transferred directly to the top of the Kamyr digester where high pressure steam and additional white liquor are introduced. Weak black liquor is extracted from the digester at two different levels and piped to two separate flash tanks, Tanks 1A and 1B, where the liquor flashes due to the reduced pressure. The flash steam is vented back to the steaming vessel and the liquor is sent to the No. 2 Flash Tank and ultimately to the weak liquor storage area. Off-gas from the No. 2 Flash Tank vents through the No. 1 Stripper system and ultimately to the LVHC gas collection system. The pulp is continuously discharged from the bottom of the digester and sent on to the diffusion washer.

The EPA defines a ***Digester System*** as follows:

> "*Digester system* means each continuous digester or each batch digester used for the chemical treatment of wood or non-wood fibers. The digester equipment includes associated flash tank(s), blow tank(s), chip steamer(s) not using fresh

steam, blow heat recovery accumulator(s), relief gas condenser(s), prehydrolysis unit(s) preceding the pulp washing system and any other equipment serving the same function as those previously listed. The digester system includes any of the liquid streams or condensates associated with the batch or continuous digester relief, blow, or flash steam process."

Based on this definition, the MACT-regulated equipment associated with the Kamyr Digester System is detailed in Table 2.1-1:

Table 2.1-1
Kamyr Continuous Digester System [(a)]
List of MACT-Regulated Equipment

Equipment Description	LVHC System Tie-In	Pulping Condensate System Tie-In
Chip Steaming Vessel		
Impregnation Vessel		
Kamyr Digester	(b)	
#1A Flash Tank	(c)	
#1B Flash Tank	(c)	
#2 Flash Tank	(b)	
Entrainment Separator	(b)	✓

(a) The MACT-regulated system also includes all pumps, valves, flanges, piping, and other related equipment associated with the regulated system.
(b) Off-gas containing NCG vent through the No. 1 Stripper System and Turpentine Recovery System to the LVHC System.
(c) The #1A and #1B flash tank vents have been modified to vent to the #2 flash tank. While these would be vents on a typical Kamyr system, at the Pensacola Mill they are not relief vented to the atmosphere and are therefore no longer monitored.

2.1.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions.

2.1.2.1 Process Operating Time

The Kamyr Digester System will have the potential to emit LVHC gases as shown below.

	Indication of PTE = CAN EMIT	Startup Complete PTE = CAN EMIT	Shutdown Initiated PTE = CAN EMIT	Indication of PTE = CAN NOT EMIT
Kamyr Digester System	White liquor flow to the Kamyr is > 150 gpm	Blow flow to the diffusion washer has been achieved for 60 minutes	Shutdown begins with the shutting off chips to the chip bin	White liquor flow is < 150 gpm, blow line flow < 100 gpm, extraction flow < 75 gpm and the digestor blow is < 200 gpm

2.1.2.2 Startup Procedures

The exact procedures and the transition between startup and normal operations are event-specific and few system startups are completed in the identical timeframe with the identical steps noted here. Minor malfunctions may occur to process equipment that delay the transition from startup

to normal operating conditions. To account for this, startup of the Kamyr Digester System is considered to be complete once blow flow to the diffusion washer has been achieved for 60 minutes.

There are two different types of startup conditions for the Kamyr Digester System: a "hot" startup and a "cold" startup.

- A "cold" startup is defined as a startup following a prolonged shutdown or mill outage.
- A "hot" startup is defined as a startup following a short-duration shutdown where process materials may still be present in system components.

Provided below in Table 2.1-2 is an outline of the Startup procedures for the Kamyr Digester System. The steps have been identified as applicable to a "hot" startup, "cold" startup, or both. Please note, the completion of startup and the transition to normal operations is defined above and is consistent for both "hot" and "cold" startup conditions.

TABLE 2.1-2
KAMYR DIGESTER SYSTEM
STARTUP PROCEDURES

Procedure	Hot	Cold
1. Verify the following: • Water available to the Entrainment Separator • Pulping Process Condensate System and the No. 1 Stripper Condenser Systems are operating • LVHC Collection System and treatment unit operating	✓	✓
2. Contact Recovery/Utilities – confirm steam availability	✓	✓
3. Check valve positions and controller(s) • Liquor • Condensate • Vapors • Steam	✓	✓
4. Check Pumps, verify water feed to Entrainment Separator to control pressure	✓	✓
5. Pressurize the Steaming Vessel	✓	✓
6. Pressurize the Impregnation Vessel	✓	✓
7. Pressurize the Digester	✓	✓
8. Begin feeding chips to the Chip Bin	✓	✓
9. Start Feed System	✓	✓
10. Sluice chips to Digester	✓	✓
11. Open Blow Valve	✓	✓
12. Start Diffusion Washer	✓	✓
13. Confirm Steady-state operations for 60 minutes (end of startup) • **Blowing pulp to the Diffusion Washer**	✓	✓
14. End Startup	✓	✓

The following Operating Procedures are used during Startup to minimize emissions:

- Confirm water availability to the Entrainment Separator.
- Confirm that the No. 1 Stripper Condenser Systems are operational.
- Confirm that the LVHC gas collection system is venting to the Gas Treatment Unit(s).
- ***Once confirmation is obtained***, startup of the Kamyr Digester System can be initiated. This will ensure that any LVHC gas generated will be vented through the collection system and to the control device.

2.1.2.3 Shutdown Procedures

A summary of Shutdown Procedures is provided in Table 2.1-3. Except for unique situations, the procedures should be followed for all shutdowns of the Kamyr Digester System. Shutdown begins with the shutting off chips to the chip bin. Subsequent steps in the Kamyr Digester System procedure are intended to minimize any MACT regulated releases during the process startup.

TABLE 2.1-3
KAMYR DIGESTER SYSTEM
SHUTDOWN PROCEDURES

Procedure	Hot	Cold
1. Notify Recovery/Utilities of Shutdown and maintain LVHC gas collection until Step 7 is completed	✓	✓
2. Shut off Chip Bin Feed (Begin Shutdown)	✓	✓
3. Sluice Out Impregnation Vessel	✓	✓
4. "Close Off" Impregnation Vessel and depressurize the feed system	✓	✓
5. Blow out Digester		✓
6. Close Digester Blow Valve	✓	✓
7. Cool Digester • Introduce Liquor • Extract for up to 2 hours • Shut off Extraction Valve	✓	
8. End of Shutdown	✓	✓

*The following Operating Procedures are **mandatory** during Shutdown to minimize emissions:*

- No venting except through LVHC Collection System until the digester extraction and blow valves are closed.

2.1.2.4 Malfunction Events

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.

Note: Malfunctions that are associated with startup or shutdown conditions are covered under Startup and Shutdown Procedures of this plan.

A summary of excess emission/malfunction events for the Kamyr Digester System is provided below.

Kamyr System Excess Emission Events		
Excess Emission Event	***Cause***	***Corrective Action***
No. 1A Flash Tank PRV Venting	• No longer vents to the atmosphere	
No. 1B Flash Tank PRV Venting	• No longer vents to the atmosphere	
No. 2 Flash Tank Primary PRV Venting	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event
No. 2 Flash Tank Secondary PRV Venting	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event

No. 2 Flash Tank Vacuum Breaker Venting	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event
Low Pressure Feeder Purge to Atmosphere Valve Venting	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event
Steaming Vessel PRV Venting	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event

Kamyr Digester PRV Venting	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event

2.2 BATCH DIGESTER SYSTEM

2.2.1 PROCESS DESCRIPTION

The Batch Digester System at the Pensacola Mill includes 12 individual batch digester units and the associated blow tanks and heat recovery equipment used for producing softwood pulp. The chips are fed into an empty digester from an overhead conveyor system. When the digester is filled with chips the top is closed and sealed and steam and white liquor are introduced for the cooking cycle. At the end of the cooking cycle, the digester contents are released to one of two blow tanks. The Nos. 1 through 6 digesters discharge to the No. 1 blow tank and the Nos. 7 through 12 digesters discharge to the No. 2 blow tank. During the cooking cycle, relief gases from the digesters also vent to the respective blow tanks. The blow tanks separate the pulp and cooking liquor from the vapor stream and the pulp is sent on to the pulp washing process. The vapors from the blow tanks vent to a cyclone separator and then to the accumulator tank. Additional pulp and liquor removed in the cyclone is combined with the pulp from the blow tanks and sent to the washers. The accumulator is equipped with a barometric condenser and is used to recover heat from the digester exhaust gases. The vent gas leaving the accumulator passes through a secondary condenser prior to entering the LVHC gas collection system. The hot water collected in the accumulator is sent to the accumulator hot water tank which is included in the Condensate Collection and Treatment section of this document.

The EPA defines a ***Digester System*** as follows:

> "*Digester system* means each continuous digester or each batch digester used for the chemical treatment of wood or non-wood fibers. The digester equipment includes associated flash tank(s), blow tank(s), chip steamer(s) not using fresh

steam, blow heat recovery accumulator(s), relief gas condenser(s), prehydrolysis unit(s) preceding the pulp washing system and any other equipment serving the same function as those previously listed. The digester system includes any of the liquid streams or condensates associated with the batch or continuous digester relief, blow, or flash steam process."

Based on this definition, the MACT-regulated equipment associated with the Batch Digester System is detailed in Table 2.2-1:

Table 2.2-1
Batch Digester System [(a)]
List of MACT-Regulated Equipment

Equipment Description	**LVHC System Tie-In**	**Pulping Condensate System Tie-In**
Batch Digesters #1 through #12	(b)	
#1 Blow Tank	(b)	
#2 Blow Tank	(b)	
Primary Condenser/Accumulator Tank	(b)	
Accumulator Hot Water Tank	✓	✓
Secondary Condenser	✓	

(a) The MACT-regulated system also includes all pumps, valves, flanges, piping, and other related equipment associated with the regulated system.
(b) Off-gas containing NCG vents through the Secondary Condenser to the LVHC System.

2.2.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions.

2.2.2.1 Process Operating Time

The Batch Digester System is considered to have the potential to emit LVHC gases as shown below.

	Indication of PTE = CAN EMIT	Startup Complete PTE = CAN EMIT	Shutdown Initiated PTE = CAN EMIT	Indication of PTE = CAN NOT EMIT
Batch Digester System	When one or more of the digesters have attained a digester pressure of 10 psig	Confirm Steady-state operations for 60 minutes (end of startup) Pulp off of the Washers	Shutdown begins when chips and cooking liquor are no longer being fed to the digesters	If all digesters have a pressure less than 10 psig, the system will be considered down.

2.2.2.2 Startup Procedures

The exact procedures and the transition between startup and normal operations are event-specific and few system startups are completed in the identical timeframe with the identical steps noted here. Minor malfunctions may occur to process equipment that delay the transition from startup to normal operating conditions. The Batch Digester System is separated into two distinct lines that can be started independently and share a common blow heat recovery system. While one

line may be up and running, malfunctions can occur as a result of starting up the other line. To account for this, startup of the Batch Digester System is split into two logic lines that require each of the 6 digesters on a line to achieve a pressure greater than 10 psig. Therefore, normal operating conditions are not achieved until both lines have met the logic requirements for start-up completion.

There are two different types of startup conditions for the Batch Digester System: a "hot" startup and a "cold" startup.

- A "cold" startup is defined as a startup following a prolonged shutdown or mill outage.
- A "hot" startup is defined as a startup following a short-duration shutdown where process materials may still be present in system components.

Provided below in Table 2.2-2 is an outline of the Startup procedures for the Batch Digester System. The steps have been identified as applicable to either a "hot" startup, "cold" startup, or both. Please note, the completion of startup and the transition to normal operations is defined above and is consistent for both "hot" and "cold" startup conditions.

TABLE 2.2-2
BATCH DIGESTER SYSTEM
STARTUP PROCEDURES

Procedure	Hot	Cold
1. Verify the following are operating: • LVHC Collection System and Treatment Unit • Pulping Process Condensate Collection System	✓	✓
2. Cap Digester(s)		✓
3. Pressurize Digester(s) to raise temperature		✓
4. Relieve Pressure from Digester(s)		✓
5. Open Digester Cap(s)		✓
6. Charge Digester(s) with chips and cooking liquor	✓	✓

7. Cap Digester(s)	✓	✓
8. Confirm Gas Relief and Steam Admission off manual		✓
9. Verify Accumulator operation		✓
10. Activate Digester Program		✓
11. Confirm Steady-state operations for 60 minutes (end of startup) • **Pulp off of the Washers**	✓	✓
12. End Startup	✓	✓

The following Operating Procedures are ***mandatory*** *during Startup to minimize emissions and ensure that any LVHC gas generated will be vented through the collection system and to the control device:*

- Confirm that the LVHC gas collection system is venting to the Gas Treatment Unit(s).
- Confirm all valve positions are set for proper venting and condensate flow.
- Confirm that the accumulator system is operational and ready to receive blow gases.
- ***Once confirmation is obtained***, startup of the Batch Digester System can be initiated.

2.2.2.3 Shutdown Procedures

A summary of Shutdown Procedures is provided in Table 2.2-3. Except for unique situations, the procedures shall be followed for all shutdowns of the Batch Digester System. Shutdown begins when chips and cooking liquor are no longer being fed to the digesters. All subsequent steps are considered to be steps in the Batch Digester System procedure intended to minimize any MACT regulated releases during the shutdown process.

TABLE 2.2-3
BATCH DIGESTER SYSTEM
SHUTDOWN PROCEDURES

Procedure	Hot	Cold

1. **Discontinue feeding chips and cooking liquor to digesters (Begin Shutdown). Maintain LVHC gas collection until Step 3 is completed.**	✓	✓
2. Complete Digester blow cycle	✓	✓
3. Clear system, shutdown ends when system is cleared and checked.		✓
4. Maintain steam pad, shutdown ends when digester startup begins.	✓	

*The following Operating Procedures are **mandatory** during Shutdown to minimize emissions:*

- No venting except through LVHC Collection System until the system is cleared and checked.

2.2.2.4 Malfunction Events

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.
Note: Malfunctions that are associated with startup or shutdown conditions are covered under Startup and Shutdown Procedures of this plan.

A summary of excess emission/malfunction events for the Batch Digester System is provided below.

BATCH DIGESTERS MALFUNCTIONS		
Excess Emission Event	**Cause**	**Corrective Actions**
#1 Blow Tank Relief Valve Venting	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event
#2 Blow Tank Relief Valve Venting	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event

#1 - #12 Batch Digester Gas-off PRV Venting	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event
Batch Accumulator Secondary Condensor PRV Venting	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event
Accumulator Water Seal Level Low	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event

NCG's From Hot Water Tank, Line Exceeded Rupture Disk Rating	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event
Relief Valve on Hot Water Tank NCG Line Venting	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event

2.3 NO. 1 STRIPPER SYSTEM

2.3.1 PROCESS DESCRIPTION

The No. 1 Stripper System at the Pensacola Mill was used to control the flash steam from the Kamyr number 2 flash tank, remove TRS compounds from contaminated condensate and as a turpentine recovery unit. Due to the very poor methanol removal efficiency of the No.1 Stripper and the installation of the No.2 Stripper, the No.1 Stripping column has been shut down. The No. 1 Stripper Reflux and Turpentine Condensers continue to operate as a blow heat recovery system for the Kamyr Digester. The original equipment design allowed for the column to be by-passed and the flash steam from the No. 2 Flash tank to be routed directly to the Reflux Condenser and subsequently to the Turpentine Condenser and LVHC gas collection system. This operational configuration allows the system to be operated as a standard condensing system for blow heat control. Flash steam from the No. 2 flash tank still vents through an entrainment separator prior to the Reflux Condenser. Condensate streams from the reflux condenser and the turpentine condenser are sent to the reflux tank which has been reconfigured as a turpentine decanter. The turpentine underflow goes to the foul oil tank and is then pumped to the condensate collection tank.

The EPA defines a ***Turpentine Recovery System*** as follows:

"*Turpentine recovery system* means all equipment associated with recovering turpentine from digester system gases including condensers, decanters, storage tanks, and any other equipment serving the same function as those previously listed. The turpentine recovery system includes any liquid streams associated with the turpentine recovery process such as turpentine decanter."

Based on this definition, the MACT-regulated equipment associated with the No. 1 Stripper System is detailed in Table 2.3-1:

Table 2.3-1
No. 1 Stripper System [(a)]
List of MACT-Regulated Equipment

Equipment Description	**LVHC System Tie-In**	**Pulping Condensate System Tie-In**
Reboiler	(b)	✓
#1 Stripper Column	(b)	
Reflux Condenser	(c)	✓
Turpentine Condenser	✓	✓
NCG Gas Cooler	✓	
Turpentine Decanter	✓	
Turpentine Underflow Tank	✓	✓
Turpentine Storage Tank	✓	✓

(a) The MACT-regulated system also includes all pumps, valves, flanges, piping, and other related equipment associated with the regulated system.
(b) Out of service
(c) Off-gas containing NCG vent through the Turpentine Recovery System to the LVHC System.

2.3.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions.

2.3.2.1 Process Operating Time

The #1 Stripper will considered to have the potential to emit LVHC gases as shown below.

	Indication of PTE = CAN EMIT	Startup Complete PTE = CAN EMIT	Shutdown Initiated PTE = CAN EMIT	Indication of PTE = CAN NOT EMIT
#1 Stripper	White liquor flow to the Kamyr is > 150 gpm	Blow flow to the diffusion washer has been achieved for 60 minutes	Shutdown begins with the shutting off chips to the Kamyr chip bin	Kamyr white liquor flow is < 150 gpm, blow line flow < 100 gpm, extraction flow < 75 gpm and the Kamyr digestor blow is < 200 gpm

2.3.2.2 Startup Procedures

The exact procedures and the transition between startup and normal operations are event-specific and few system startups are completed in the identical timeframe with the identical steps noted here. Minor malfunctions may occur to process equipment that delay the transition from startup to normal operating conditions. Since the #1 Stripper Condensing System is directly linked to the Kamyr Digester System, we have the potential to have SSM events on the #1 Stripper

Condensing System caused by problems on the Kamyr Digester System. As such, we have defined the end of the startup period to be the end of any Kamyr startup.

There are two different types of startup conditions for the No. 1 Stripper System: a “hot” startup and a “cold” startup.

- A “cold” startup is defined as a startup following a prolonged shutdown or mill outage.
- A “hot” startup is defined as a startup following a short-duration shutdown where process materials may still be present in system components.

Provided below in Table 2.3-2 is an outline of the Startup procedures for the No. 1 Stripper System. The steps have been identified as applicable to either a “hot” startup, “cold” startup, or both. Please note, the completion of startup and the transition to normal operations is defined above and is consistent for both “hot” and “cold” startup conditions.

TABLE 2.3-2

NO. 1 STRIPPER SYSTEM
STARTUP PROCEDURES

Procedure	Hot	Cold
1. Verify the following are operating: • LVHC Collection System and Treatment Unit • Pulping Process Condensate Collection System	✓	✓
2. Check valve positions and controller(s)	✓	✓
3. Send 165 pound steam to ejectors		✓
4. Verify 165 pound steam to ejectors	✓	
5. Verify Turpentine Condenser controls, verify cooling water flow	✓	✓
6. Verify Reflux Condenser controls, verify cooling water flow	✓	✓
7. Condensing System is ready to receive Kamyr System waste heat	✓	✓
8. Monitor condenser conditions	✓	✓
9. Confirm Steady-state operations for 60 minutes (end of startup) • **Blowing pulp to the diffusion washer** • **Flash steam being sent to the condensers**	✓	✓
10. End Startup	✓	✓

*The following Operating Procedures are **mandatory** during Startup to minimize emissions:*

- Confirm that the Turpentine Recovery System is operational and that the LVHC gas collection system is venting to the Gas Treatment Unit(s).
- ***Once confirmation is obtained***, startup of the No. 1 Stripper Condensing System and Turpentine Collection System can be initiated. This will ensure that any LVHC gas generated will be vented through the collection system and to the control device.

2.3.2.3 Shutdown Procedures

A Summary of Shutdown Procedures is provided in Table 2.3-3. Except for unique situations, the procedures shall be followed for all shutdowns of the No. 1 Stripper Condenser System. ***Shutdown begins when the Kamyr Digester System stops feeding chips***. All subsequent steps are considered to be steps in the No. 1 Stripper Condensing System procedure intended to minimize any MACT regulated releases during the process .

TABLE 2.3-3
NO. 1 STRIPPER CONDENSING SYSTEM
SHUTDOWN PROCEDURES

Procedure	Hot	Cold
1. **Stop feeding flash steam from the No. 2 Flash Tank to the Stripper Condensers. (Begin Shutdown).** Maintain LVHC gas collection until Step 5 is completed.	✓	✓
2. Shutdown associated equipment	✓	✓
3. Stop feeding 165-pound steam to the Ejector		✓
4. End of Shutdown		✓
5. End of Shutdown when Startup begins	✓	

*The following Operating Procedures are **mandatory** during Shutdown to minimize emissions:*

- No venting except through LVHC Collection System until the 165 pound steam ejector is shut down.

2.3.2.4 Malfunction Events

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.

A summary of excess emission/malfunction events for the Number 1 Stripper System is provided below.

NO. 1 STRIPPER EXCESS EMISSIONS		
Excess Emission	**Cause**	**Corrective Actions**
#1 Stripper Rupture Disk Failure	• The No. 1 Stripper has been taken out of service so this rupture disk is no longer monitored.	
#1 Stripper Post Eductor Rupture Disk Failure	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event

* The mill maintains a computerized Spare Parts Inventory. All No. 1 Stripper System spare parts are summarized by equipment in the system.

2.4 NO.2 STEAM STRIPPER - PULPING CONDENSATE TREATMENT

2.4.1 PROCESS DESCRIPTION

The No. 2 Stripper System at the Pensacola Mill is a pressurized system used to remove contaminants from condensate streams. Foul condensate from the condensate feed tank and other sources is pumped through a fiber filter to a pre-heater and into the stripper column where 65 pound fresh steam is used to strip the compounds from the condensate. The off-gas from the stripper column passes through the reflux condenser before venting into the LVHC gas collection system. The condensate stream from the reflux condenser is sent back to the stripper column.

The EPA defines a ***Steam Stripper System*** as follows:

> "*Steam Stripper System* means a column (including associated stripper feed tanks, condensers, or heat exchangers) used to remove compounds from wastewater or condensates using steam. The steam stripper system also contains all equipment associated with a methanol rectification process including rectifiers, condensers, decanters, storage tanks, and any other equipment serving the same function as those previously listed."

Based on this definition, the MACT-regulated equipment associated with the No. 2 Stripper System is detailed in Table 2.4-1:

Table 2.4-1
No. 2 Stripper System [(a)]
List of MACT-Regulated Equipment

Equipment Description	**LVHC System Tie-In**	**Pulping Condensate System Tie-In**
#2 Stripper Column	(b)	
Reflux Condenser	✓	
Condensate Pre-heaters		

(a) The MACT-regulated system also includes all pumps, valves, flanges, piping, and other related equipment associated with the regulated system.
(b) Off-gas containing NCG vent through the reflux condenser to the LVHC System.

Methanol treatment compliance will be demonstrated through verifying 92% treatment efficiency at a set effective steam ratio. Compliance tests will determine the minimum effective steam ratio and the No. 2 Stripper will be operated at or above this minimum to ensure adequate treatment. Effective Steam Ratio (ESR) is computed as the ratio of effective steam flow divided by the foul condensate flow, or:

$$ESR = \frac{\text{Effective Steam Flow}}{\text{Foul Cond Flow}} = \frac{SSF - ((FCFF \times (SBT-FCFT) \times (1\ BTU/lb\text{-}F)) / H)}{FCFF}$$

For example, assuming:

Stripper Steam Flow (SSF)	= 10,000 lb/hr
Foul Condensate Feed Flow (FCFF)	=100 gpm (100gpm x 500 lb/hr/gpm = 50,000 lb/hr)
Stripper Bottom Temp (SBT)	= 275 °F
Foul Condensate Feed Temp (FCFT)	= 255 °F
Enthalpy (H)	= 1000 BTU/lb (assumed constant)

yields an effective steam ratio of

$$ESR = \frac{10{,}000 - (((50{,}000 \times (275-255)) \times (1\ BTU/lb - °F)) / 1000)}{50{,}000} = \frac{9000\ lb/hr}{50{,}000\ lb/hr} = 0.18$$

The following Continuous Monitoring System (CMS) variables will be monitored for verification that the system is operating within required parameters:

Kamyr Chip Meter RPM (for calculating tons produced)
Batch Blows/day (for calculating tons produced)
#2 Stripper Condensate Feed Flow
#2 Stripper Condensate Feed Methanol Concentration
#2 Stripper Column Feed Temperature
#2 Stripper Steam Flow
#2 Stripper Bottoms Temperature
#2 Stripper Condensate Diversion Valve

In the event of a failure in the ability to record one or more of the above CMS variable, the following surrogates will be used to verify proper operation and compliance until repairs can be made:

Kamyr Chip Meter RPM – will use manual calculation based on set point and time
Batch Blows/day – will use manual count from operators log sheet
#2 Stripper Condensate Feed Flow – will use valve position to verify flow rate
#2 Stripper Feed MeOH Concentration – will retain duplicate samples
#2 Stripper Feed Temperature – will record manual temperature readings
#2 Stripper Steam Flow – will use valve position to verify flow rate
#2 Stripper Bottoms Temperature – will record manual temperature readings
#2 Stripper Condensate Diversion Valve – will use manual valve to isolate

2.4.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions.

2.4.2.1 Process Operating Time

The #2 Stripper System will be considered to have the potential to emit LVHC gases as shown below.

	Indication of PTE = CAN EMIT	Startup Complete PTE = CAN EMIT	Shutdown Initiated PTE = CAN EMIT	Indication of PTE = CAN NOT EMIT
No.2 Steam Stripper	Steam flow to the stripper is >5000 lbs/hr	Steady-state operation, based on stable pressure in the stripper off-gas (SOG) at the outlet of the reflux condenser	Shutdown begins when the 65-pound steam is shut off to the stripper column	Steam flow to the stripper is < 5000 lbs/hr and no condensate feed

2.4.2.2 Startup Procedures

The exact procedures and the transition between startup and normal operations are event-specific and few system startups are completed in the identical timeframe with the identical steps noted here. Minor malfunctions may occur to process equipment that delay the transition from startup to normal operating conditions. To account for this, **startup of the No. 2 Stripper System is**

considered to be complete once steady-state operation, as determined based on stable pressure in the stripper off-gas (SOG) at the outlet of the reflux condenser.

There are two different types of startup conditions for the No. 2 Stripper System: a "hot" startup and a "cold" startup.

- A "cold" startup is defined as a startup following a prolonged shutdown or mill outage.
- A "hot" startup is defined as a startup following a short-duration shutdown where process materials may still be present in system components.

Provided below in Table 2.4-2 is an outline of the Startup procedures for the No. 2 Stripper System. The steps have been identified as applicable to either a "hot" startup, "cold" startup, or both. Please note, the completion of startup and the transition to normal operations is defined above and is consistent for both "hot" and "cold" startup conditions.

TABLE 2.4-2
NO. 2 STRIPPER SYSTEM
STARTUP PROCEDURES

Procedure	Hot	Cold
1. Verify the following are operating: • LVHC Collection System and Treatment Unit • Pulping Process Condensate Collection System	✓	✓
2. Notify Recovery and White Liquor/Tall Oil	✓	✓
3. Check valve positions and controller(s)	✓	✓
4. Verify that the Lime Kiln (Caustic Room Operator) will accept SOGs	✓	✓
5. Start flow from Condensate Feed tank to the Stripper Column	✓	✓
6. Verify Reflux Condenser controls	✓	✓
7. Begin feeding 65 pound steam to Stripper Column	✓	✓
8. Monitor Stripper Column conditions	✓	✓

9. Confirm Steady-state operations for 60 minutes (end of startup) • **Stable pressure in SOGs at the outlet of the Reflux Condenser**	✓	✓
10. End Startup	✓	✓

*The following Operating Procedures are **mandatory** during Startup to minimize emissions:*

- Confirm that the LVHC gas collection system is venting to the Gas Treatment Unit(s) and that the valves are correctly positioned.
- ***Once confirmation is obtained***, startup of the No. 2 Stripper System can be initiated. This will ensure that any LVHC gas generated will be vented through the collection system and to the control device.

2.4.2.3 Shutdown Procedures

A Summary of Shutdown Procedures is provided in Table 2.4-3. Except for unique situations, the procedures shall be followed for all shutdowns of the No. 2 Stripper System. ***Shutdown begins when the 65-pound steam is shut off to the stripper column***. All subsequent steps are considered to be steps in the No. 2 Stripper System procedure intended to minimize any MACT regulated releases during the process.

TABLE 2.4-3
NO. 2 STRIPPER SYSTEM
SHUTDOWN PROCEDURES

Procedure	Hot	Cold
1. Notify Lime Kiln (Caustic Room Operator) and maintain LVHC gas collection until Step 2 is completed		✓
2. Stop feeding 65-pound steam to the Stripper Column (Begin Shutdown)		✓
3. Discontinue condensate feed to the Stripper Column		✓
4. End of Shutdown		✓

*The following Operating Procedures are **mandatory** during Shutdown to minimize emissions:*

- No venting except through LVHC Collection System until the 65-pound steam is shut down.

2.4.2.4 Malfunction Events

The No. 2 Stripper is the mill's methanol treatment device. Methanol removal efficiency and CMS variables will be discussed in this section of the plan. The CMS variables were listed in section 2.4.1 above. Malfunctions that can occur to each of the CMS variables are covered below.

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.

A summary of excess emission/malfunction events for the Number 2 Stripper System is provided below.

NO. 2 STRIPPER MALFUNCTIONS		
Excess Emission Event	**Cause**	**Corrective Actions**
#2 Stripper Reflux Vapor Rupture Disk Fails	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Complete Proficy database for event
#2 Stripper Effective Steam Ratio Below Minimum	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event

NO. 2 STRIPPER CMS MALFUNCTIONS		
CMS Event	**Cause**	**Corrective Actions**
No.2 Stripper Inlet Steam Flow Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event
No.2 Stripper Stripped Condensate Flow Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event
No.2 Stripper Condensate Feed Flow Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event

No.2 Stripper Condensate Inlet Temperature Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event
No.2 Stripper Bottoms Temperature Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event
No.2 Stripper Condensat Diversion Valve Position Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required • Return signal after maintenance is complete • Position verified; identify and repair malfunction • Complete Proficy database for event

Kamyr Chip Meter Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Input tons manually • Complete Proficy database for event
Batch Digester Blows/Day Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Blows verified; identify and repair malfunction • Input tons manually • Complete Proficy database for event
No.2 Stripper Feed MeOH Concentration	• Shutdown • Lost sample • Sample damaged in route • Sampling error • other	• No action required • Contact courier • Evaluate and correct • Submit retained duplicate sample • Other • Complete Proficy database for event

2.5 PULPING PROCESS CONDENSATE SYSTEM

2.5.1 PROCESS DESCRIPTION

The Pulping Process Condensate System at the Pensacola Mill includes the physical equipment for collecting, transporting, and storing the MACT regulated condensate streams. The regulated streams originate from the feed effects of the No. 1 and No. 2 evaporator sets, the evaporator gas condensers, the LVHC gas collection system drains, the No. 1 Steam Stripper system and the turpentine recovery system. The collected condensates are ultimately piped to the main Condensate Collection Tank from which they are pumped to the No. 2 Stripper System for treatment. The mill will show compliance with methanol collection by using the flow and concentration to the No. 2 Stripper. The sample for concentration analysis will be obtained by continuously collecting a small stream to a refrigerated collection container. The composite sample will be transferred to the required VOC sample bottle and sent to the lab for analysis. In the event of a plugged sample line, a grab sample will be collected and used for that days sample.

The following Continuous Monitoring System (CMS) variables will be monitored for verification that the system is operating within required parameters:

Kamyr Chip Meter RPM (for calculating pine tons produced)
Batch Blows/day (for calculating HW tons produced)
#2 Stripper Condensate Feed Flow
#2 Stripper Condensate Feed Methanol Concentration

The above malfunctions are common with CMS events on No. 2 Stripper and have been covered in section 2.4.2.3 (No. 2 Stripper Malfunctions). As such, there will not be a duplicate explanation for these variables in this section of the plan.

The EPA defines a ***Pulping Process Condensate*** as follows:

> "*Pulping process condensate* means any HAP-containing liquid that results from contact of water with organic compounds in the pulping process. Examples of process condensates include digester system condensates, turpentine recovery system condensates, evaporator system condensates, LVHC Collection System condensates, HVLC system condensates, and any other condensates from equipment serving the same functions as those previously listed. Liquid streams that are intended for byproduct recovery are not considered process condensate streams."

The EPA defines an ***Individual Drain System*** as follows:

> "*Individual drain system* means a stationary system used to convey wastewater streams or residuals to a waste management unit or to discharge or disposal. The term includes hard-piping, all drains and junction boxes, together with their associated sewer lines and other junction boxes (e.g., manholes, sumps, and lift stations) conveying wastewater streams or residuals. For the purpose of this subpart, an individual drain system is not a drain and collection system that is designed and operated for the sole purpose of collecting rainfall runoff (e.g., stormwater sewer system) and is segregated from all other individual drain systems."

Based on this definition, the MACT-regulated equipment associated with the Pulping Process Condensate System is detailed in Table 2.6-1:

Table 2.6-1
Pulping Process Condensate System [(a)]
List of MACT-Regulated Equipment
*****add the new Turpentine system**

Equipment Description	LVHC System Tie-In	Pulping Condensate System Tie-In
ABC Condensate Tank	✓	✓
#1 Hot Well	✓	✓
#2 Hot Well	✓	✓
Foul Condensate Feed Tank	✓	✓
Reflux/Foul Oil Tank		✓
NCG Seal Pot		✓
SOG Seal Pot		✓
Combined Condensate Tank	✓	✓
Spill Collection Tank		✓
Rectifier Feed Tank		✓
Condensate collection (piping, pumps, tanks, etc.)		✓
No. 2 Stripper System (Described in Previous Section)	✓	✓

[(a)] The MACT-regulated system also includes all pumps, valves, flanges, piping, and other related equipment associated with the regulated system.

There will be frequent times where one or more sources contributing to the Pulping Process Condensate System will be in startup, shut down or malfunction conditions. During these periods the potential exists to loose methanol to either air or water streams. As such, SSM procedures for each of the emitting devices contributing to methanol collection will be referenced in this section as applicable.

Our compliance calculation utilizes the feed flow to the No. 2 Stripper and MeOH concentration to calculate methanol collection and treatment. Therefore, the No. 2 Stripper SSM procedures will be referenced where applicable in the Pulping Process Condensate System.

2.5.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions.

2.5.2.1 Process Operating Time

The Pulping Process Condensate System will considered to have the potential to emit LVHC gases as shown below.

	Indication of PTE = CAN EMIT	Startup Complete PTE = CAN EMIT	Shutdown Initiated PTE = CAN EMIT	Indication of PTE = CAN NOT EMIT
Pulping Condensate System	When any of the following sources have a PTE	When all of the sources have completed startup	When any one of the following sources has initiated shutdown	When all of the following sources have no PTE

2.5.2.2 Startup Procedures

The Pulping Process Condensate System collects and treats condensates from nearly all areas of the Pulp System. Conditions where all sources will be down at the same time are very rare. As such, the collection portion of the Pulping Process Condensate System will be operating nearly 100% of the time. The following emitting equipment startup procedures will need to be followed in order to comply with methanol collection and treatment regulations:

No. 2 Stripper
Batch Digester System
Kamyr Digester System
No. 1 Evaporators
No. 2 Evaporators

The Pulping Process Condensate System collection will be considered in startup whenever any of the above emitting units are in startup conditions as described in the applicable section of this plan.

2.5.2.3 Shutdown Procedures

The Pulping Process Condensate System collects and treats condensates from nearly all areas of the Pulp System. Conditions where all sources will be down at the same time are very rare. As such, the collection portion of the Pulping Process Condensate System will be operating nearly 100% of the time. The following emitting equipment shutdown procedures will need to be followed in order to comply with methanol collection and treatment regulations:

No. 2 Stripper
Batch Digester System
Kamyr Digester System

No. 1 Evaporators

No. 2 Evaporators

The Pulping Process Condensate System collection will be considered in shutdown mode whenever any of the above emitting units are in shutdown conditions as described in the applicable section of this plan.

2.5.2.3 Malfunction Events

The calculation for compliance with the applicable standards will be completed after the results of methanol testing are received from the laboratory. As such, SSM events that could have an impact on compliance must be tracked daily. For example, if the mill is experiencing a malfunction on the No. 2 Evaporators and not able to collect the hot well stream due to high conductivity, we may experience lower than the required amount of methanol collection at some point during the averaging period. Therefore, all emission points in the Pulping Process Condensate System as well as each emission point in the emitting devices will be monitored electronically. If a malfunction occurs which causes the mill to bypass condensates from the Pulping Process Condensate System or limit the collection efficiency of an emitting unit, a Proficy event will be triggered and operators will fill out the required information. This information may be used to describe any periods where the applicable average falls below the required amount of collection from the Pulping Process Condensate System in reports to the regulatory agencies.

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.

A summary of excess emission/malfunction events for the Pulping Process Condensate System is provided below.

Note: Malfunctions that are associated with startup or shutdown conditions are covered under Startup and Shutdown Procedures of this plan.

PULPING CONDENSATE COLLECTION MALFUNCTIONS/BYPASS EVENTS		
Excess Emission Event	**Cause**	**Corrective Actions**
Condensate Collection Tank Overflow	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event
Accumulator Hot Water Tank Overflow	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event
#2 Evaporator Hot Well Overflow	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event

Contaminated Condensate Tank Overflow	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event
NCG Seal Pot Overflow	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event
SOG Seal Pot Overflow	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event

Boil Out Tank Overflow	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event
#1 Hot Well Dump Valve Open	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event
Stripper Feed Divert Valve Open	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event

Condensate From No.1 Evaporators Dumped to Sewer (see SSM plan for No. 1 Evaporators)	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event
Condensate From No. 2 Evaporators Dumped to Sewer (see SSM plan for No. 2 Evaporators)	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event

2.6 NO. 1 AND NO.2 EVAPORATOR SYSTEMS

2.6.1 PROCESS DESCRIPTION

The No. 1 and No.2 Evaporator Systems at the Pensacola Mill are multi-effect evaporator systems with six effects. The purpose of the systems is to convert the weak black liquor from the pulp washing process to strong black liquor that can be used in the recovery process. Weak black liquor is fed to the 6th effect and 65 pound steam is introduced at the 1st effect. The liquor and steam flow counter currently through the system. The strong liquor exits the 1st effect and is sent to storage. Steam and vent gases leave the 6th effect and are routed to the gas condensers.

On No.1 Evaporator set the regulated condensates are collected and routed to either the No. 1 Hotwell or to the Foul Condensate Flash Tank. The condensate from the Foul Condensate Flash Tank is then pumped to the No. 2 Evaporator Hotwell and ultimately to the No. 2 Steam Stripper. The condensate from the No. 1 Evaporator Hotwell is used as level control for the main Condensate Collection Tank.

On #2 Evaporator Set condensates from the 6th effect are regulated MACT streams and are collected and routed to the No. 2 Hot Well and ultimately to the No. 2 Steam Stripper System. The condensates from the Hot Well may be routed to the Combined Condensate Tank on high conductivity. The condensates routed to the Combined Condensate Tank are not lost from the system unless the tank overflows. As such, Combined Condensate Collection Tank level is monitored as part of the Condensate Collection section of this plan.
Unregulated condensates are collected and routed to the A-Section or the B-Section of the ABC Tank. Unregulated condensates from the 1st effect are sent directly to the Powerhouse Area. The NCGs are collected in the LVHC Collection System and are routed to the Gas Treatment Unit(s).

Condensates from the gas condensers are also MACT regulated streams and are sent to the No. 2 Hotwell and ultimately to the No. 2 Steam Stripper System. The NCG's leaving the gas condensers are collected in the LVHC Collection System and are routed to either the Gas Treatment Unit(s).

Steam powered hogging jets located in the gas condenser area are used to vent the evaporator system directly to atmosphere during startup and certain malfunction situations. Use of the hogging jets will be tracked manually by the Evaporator Operator. If the hogging jet is used while there is a potential to emit, the Environmental Department will generate a Proficy event to document and report the LVHC venting.

The EPA defines an ***Evaporator System*** in the MACT Rules as follows:

> "*Evaporator System* means all equipment associated with increasing the solids content and/or concentrating spent cooking liquor from pulp washing system including pre-evaporators, multi-effect evaporators, concentrators, and vacuum systems, as well as associated condensers, hot wells, and condensate streams, and any other equipment serving the same function as those previously listed."

Based on this definition, the MACT-regulated equipment associated with the No. 1 and No.2 Evaporator Systems is detailed in Table 3.1-1:

Table 3.1-1
No. 1 and No.2 Evaporator Systems [(a)]
List of MACT-Regulated Equipment

		Pulping

Equipment Description	**LVHC System Tie-In**	**Condensate System Tie-In**
#1 Condensers - 4-Pass Condenser - 1st After Condenser - Inner Condenser - After Condenser #2 Condensers - Existing Condenser - Auxiliary Condenser - Inner Condenser - After Condenser	✓	✓
#1 Evaporator Set (Effects 5 and 6) #2 Evaporator Set (Effects 5 and 6)	✓	✓
#1 Evaporator Feed Effects Hot Well #2 Evaporator Hot Well	✓	✓
Foul Condensate Flash Tank	✓	✓

[a] The MACT-regulated system also includes all pumps, valves, flanges, piping, and other related equipment associated with the regulated system.

2.6.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions.

2.6.2.1 Process Operating Time

The No.1 and No.2 Evaporate Sets are considered to have the potential to emit LVHC gases as shown below.

	Indication of PTE = CAN EMIT	Startup Complete PTE = CAN EMIT	Shutdown Initiated PTE = CAN EMIT	Indication of PTE = CAN NOT EMIT
No.1 and No.2 Evaporator Sets	Steam flow to the 1st effect is greater than 20K lbs/hr	25-28+ deg. Baume, a stabilized evaporator system vacuum level, and a conductivity of less than 850 in the condensate for at least 60 minutes	Cut back steam to 1st effect with the intent to shutdown the evaporator set.	When 65# steam flow to the 1st effect is < 20 KPPH

2.6.2.2 Startup Procedures

The exact procedures and the transition between startup and normal operations are event-specific and few system startups are completed in the identical timeframe with the identical steps. Minor

malfunctions may occur to process equipment that delay the transition from startup to normal operating conditions. To account for this, normal operating ranges have been established for common evaporator system parameters. Three parameters should be monitored to indicate normal operating conditions:

- Baume
- Stabilized vacuum
- Conductivity

There are two different types of startup conditions for the No. 1 and No.2 Evaporator System: a "hot" startup and a "cold" startup.

- A "cold" startup is defined as a startup following a prolonged shutdown or mill outage.
- A "hot" startup is defined as a startup following a short-duration shutdown where process materials may still be present in system components.

Provided below in Table 3.1-2 is an outline of the Startup procedures for the No. 1 and No.2 Evaporator System. The steps have been coded to indicate if they pertain to a "hot" startup, "cold" startup, or both. Please note, the completion of startup and the transition to normal operations is defined above and is consistent for both "hot" and "cold" startup conditions.

TABLE 3.1-2
NO. 1 and NO.2 EVAPORATOR SYSTEM
STARTUP PROCEDURES

Procedures	Hot	Cold
1. Verify the following are operating: • LVHC Collection System and Treatment Unit • Pulping Process Condensate Collection System	✓	✓
2. Check valve positions • Liquor • Condensate • Vapors (NCG from hot well to collection system is opened) • Steam	✓	✓
3. Check Conductivity switch on condensate	✓	✓
4. Check Pumps	✓	✓
5. Maintenance follow-up check	✓	✓
6. Contact Utilities – confirm steam availability	✓	✓
7. Verify Cooling Tower operations	✓	✓
8. Activate Hogging jets, if necessary	✓	✓
9. Verify Hot Well water level, if necessary	✓	✓
10. Start 15% Liquor pumps (feed liquor) to No. 6 effect and fill all 6 effects	✓	✓
11. Confirm liquor flow into 50% liquor flash tank	✓	✓
12. Circulate liquor back to 15% Liquor tank from No. 1 effect	✓	✓
13. Check vacuum/shut off hogging jets @ 20-22 inches of water, ejectors take control		
14. Add 65# steam to No. 1 effect	✓	✓
15. Switch to 50% liquor flash tank @ Baume >25 deg.	✓	✓
16. Confirm Steady-state operations for 60 minutes (end of start-up) • **>25 deg. Baume** • **Vacuum stabilized** • **Conductivity < 850 and auto valve is sending condensate to the Steam Stripper System**	✓	✓
17. End Startup	✓	✓

*The following Operating Procedures are **mandatory** during Startup to minimize emissions:*

- Confirm that the NCG collection system is venting to the Gas Treatment Unit(s). This is accomplished by shutting off the hogging jets before liquor is put to the 6th Effect. This will ensure that the NCGs will be vented through the collection system and to the control device.
- Confirm that the condensate system is routed to the Steam Stripper System and that the automatic conductivity system is on-line. If the conductivity is above 850, the condensate is sent to the sewer and if the conductivity is below 850, the condensate is always sent to the Steam Stripper System.

2.6.2.3 Shutdown Procedures

The following procedures shall be followed for shutdown of the No. 1 and No.2 Evaporator System. Shutdown begins with the reduction of steam to the No. 1 Effect. All subsequent steps are considered to be steps in the Evaporator Shutdown procedure. A Summary of Shutdown Procedures is provided in Table 3.1-3.

TABLE 3.1-3
NO. 1 and NO.2 EVAPORATOR SYSTEM
SHUTDOWN PROCEDURES

1. Notify Utilities of Shutdown and maintain LVHC gas collection until Step 6 is completed
2. Cut back steam to the No. 1 Effect (Begin Shutdown)
3. Replace liquor feed to the No. 6 effect with water
4. Switch product liquor to 15% liquor feed tank @ Baume 25 deg.
5. Switch product liquor to boilout tank @ Baume 5 deg.
6. Valve water to sewer when clean
7. Secure steam flow to evaporators
8. Start hogging jets when there is no PTE
9. Open auxiliary vents/purge for 2 hours
10. End shutdown

*The following Operating Procedures are **mandatory** during Shutdown to minimize emissions:*

- No venting except through NCG system until the steam is shut off.
- Confirm that the condensate system is routed to the Steam Stripper System and that the automatic conductivity system is on-line.
  - If the conductivity is above 850, the condensate is sent to the sewer.
  - If the conductivity is below 850, the condensate is always sent to the Steam Stripper System.

2.6.2.4 Malfunction Events

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.

Note: Malfunctions that are associated with startup or shutdown conditions are covered under Startup and Shutdown Procedures of this plan.

NO. 1 and NO.2 EVAPORATOR SYSTEM MALFUNCTIONS		
Excess Emission Event	**Cause**	**Corrective Actions**
Hogging Jet A Open (high discharge temp.)	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contigency Plan • Shutdown if necessary • Complete Proficy database for event
Hogging Jet B Open (high discharge temp.)	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contigency Plan • Shutdown if necessary • Complete Proficy database for event
Condensate dumped on high conductivity	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event

2.7 LVHC COLLECTION SYSTEM

2.7.1 PROCESS DESCRIPTION

The LVHC Collection System at the Pensacola Mill includes the various systems, hoods, vents, ductwork and gas movers that collect the low volume, high concentration gases from the digesters, evaporators, steam strippers, turpentine recovery and pulping process condensate collection systems and are used to convey these gases to the Thermal Oxidizer or Lime Kiln for destruction. The Mill operates two separate systems that are identified as the LVHC Collection System: the NCG system that receives the off-gas from the Batch digester sources, the Kamyr digester sources, Evaporator system sources and the Turpentine Recovery System sources, and the SOG system that receives the off-gas from the No. 2 Stripper System only.

The EPA defines a ***LVHC Collection System*** as follows:

> "*Low volume, high concentration* or *LVHC Collection System* means the collection of equipment including the digester, turpentine recovery, evaporator, steam stripper systems, and any other equipment serving the same function as those previously listed."

The EPA also defines a ***LVHC Collection System*** as follows:

> "*Low volume, high concentration* or *LVHC Collection System* means the gas collection and transport system used to convey gases from the LVHC Collection System to a control device."

The EPA also defines a ***Closed-Vent System*** as follows:

> "*Closed-vent system* means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and if necessary, flow-inducing devices that transport gas or vapor from an emission point to a control device."

The components of the LVHC Collection System that are regulated under the MACT rules and must be considered in terms of SSM events have been included. Areas in the system where MACT regulated releases could possibly occur are also noted.

2.7.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions.

2.7.2.1 Process Operating Time

The LVHC System is considered to have the potential to emit LVHC gases as shown below.

	Indication of PTE = CAN EMIT	Startup Complete PTE = CAN EMIT	Shutdown Initiated PTE = CAN EMIT	Indication of PTE = CAN NOT EMIT
LVHC System	When any of the regulated sources has a PTE.	When all regulated sources have completed startup.	When any regulated source has initiated shutdown.	When all regulated sources are at a "CAN NOT EMIT" state.

2.7.2.2 Startup Procedures

The LVHC Collection System collects and treats gases from nearly all areas of the Pulp System. Conditions where all sources will be down at the same time are very rare. As such, the LVHC Collection System will be operating nearly 100% of the time. Start-up and Malfunction conditions on any of the attached emitting units or control devices can cause venting situations in the LVHC Collection System. As such the emitting unit and control device SSM events will be referenced as possible causes within this section of the plan. Where applicable, the appropriate procedures will be referenced to avoid duplication.

There are two different types of startup conditions for the LVHC Collection System: a "hot" startup and a "cold" startup.

- A "cold" startup is defined as a startup following a prolonged shutdown or mill outage.
- A "hot" startup is defined as a startup following a short-duration shutdown where process materials may still be present in system components.

Provided below in Table 3.3-1 is an outline of the Startup procedures for the LVHC Collection System. The steps have been identified as applicable to either a "hot" startup, "cold" startup, or both. Please note, the completion of startup and the transition to normal operations is defined above and is consistent for both "hot" and "cold" startup conditions.

TABLE 3.3-1
LVHC COLLECTION SYSTEM
STARTUP PROCEDURES

Procedure	Hot	Cold
1. Confirm Treatment Unit is operating and meeting minimum requirements to accept LVHC gases.	✓	✓
2. Check valve positions and controllers to Thermal Oxidizer and/or Kiln	✓	✓
3. Manually open 165 pound steam flow to the LVHC Collection System ejectors		✓
4. Verify 165 pound steam flow to the LVHC Collection System ejectors		
5. Establish vacuum on steam ejectors	✓	✓
6. Notify Regulated Systems collected by the LVHC Collection System	✓	✓
7. Select Treatment Unit; Thermal Oxidizer or Kiln	✓	✓
8. Start LVHC Collection and transport system	✓	✓
9. Confirm collection of all regulated feed streams operating under normal conditions and start feed to the Treatment Unit	✓	✓
10. Confirm Steady-state operation of LVHC Collection System and treatment of LVHC gases for 60 minutes (end of startup)	✓	✓
11. End Startup	✓	✓

*The following Operating Procedures are **mandatory** during Startup to minimize emissions:*

- Confirm that the Gas Treatment Units have a flame present and are ready to receive the LVHC gases.
- Confirm that all system valves are positioned properly to direct the gases to one of the treatment units.
- ***Once confirmation is obtained***, startup of the LVHC Collection System can be initiated. This will ensure that any LVHC gas generated will be vented through the collection system and to the control device.

2.7.2.3 Shutdown Procedures

A Summary of Shutdown Procedures is provided in Table 3.3-2. Except for unique situations, the procedures shall be followed for all shutdowns of the LVHC Collection System. ***Shutdown begins when notification to the regulated systems have been completed.*** The subsequent steps identified are considered to be steps in the LVHC Collection System procedure intended to minimize any MACT regulated releases during the shutdown process.

TABLE 3.3-2
LVHC COLLECTION SYSTEM
SHUTDOWN PROCEDURES

Procedure	Hot	Cold
1. Notify Regulated Systems collected by the LVHC Collection System (Begin Shutdown)	✓	✓
2. Regulated Systems manually shut off supply line to the LVHC Collection System and open vent.	✓	✓
3. LVHC Collection System automatically vents to atmosphere	✓	✓
4. Purge LVHC Collection System vent lines until clear	✓	✓
5. Shut manual valves and controller(s)	✓	✓
6. Shut off 165-pound steam to the ejectors.	✓	✓
7. End of Shutdown	✓	✓

*The following Operating Procedures are **mandatory** during Shutdown to minimize emissions:*

- Notification of planned shutdown of the LVHC Collection System must be made to all regulated systems controlled by the LVHC Collection System prior to the shutdown.
- Confirm that the regulated systems have manually shut off supply line(s) to the LVHC Collection System.

2.7.2.4 Malfunction Events

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.

A summary of excess emission/malfunction events for the LVHC Collection System is provided below.

Note: Malfunctions that are associated with startup or shutdown conditions are covered under Startup and Shutdown Procedures of this plan.

LVHC COLLECTION SYSTEM MALFUNCTIONS		
Excess Emission Event	**Cause**	**Corrective Actions**
No. 1 Stripper Rupture Disk Fails	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down • EmittingUnit/Control Device Malfunction	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Reference Applicable Emitting Unit/Control Device SSM Plan • Complete Proficy database for event
No. 1 Stripper Post Eductor Rupture Disk Fails	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down • EmittingUnit/Control Device Malfunction	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Reference Applicable Emitting Unit/Control Device SSM Plan • Complete Proficy database for event

No. 2 Stripper Rupture Disk Fails	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down • EmittingUnit/Control Device Malfunction	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Reference Applicable Emitting Unit/Control Device SSM Plan • Complete Proficy database for event
Hot Water Tank Vent Line Rupture Disk Fails	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down • EmittingUnit/Control Device Malfunction	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Reference Applicable Emitting Unit/Control Device SSM Plan • Complete Proficy database for event

Hot Water Tank Vent Line PRV Open	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down • EmittingUnit/Control Device Malfunction	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Reference Applicable Emitting Unit/Control Device SSM Plan • Complete Proficy database for event
SOG Vent Valve Open	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down • EmittingUnit/Control Device Malfunction	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Reference Applicable Emitting Unit/Control Device SSM Plan • Complete Proficy database for event

NCG Vent Valve Open	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down • EmittingUnit/Control Device Malfunction	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Reference Applicable Emitting Unit/Control Device SSM Plan • Complete Proficy database for event
SOG Line Pressure Exceeding Rupture Disk Rating	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down • EmittingUnit/Control Device Malfunction	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Reference Applicable Emitting Unit/Control Device SSM Plan • Complete Proficy database for event

NCG Ejector Pressure From Secondary Condenser Exceeding Rupture Disk Pressure Rating	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down • EmittingUnit/Control Device Malfunction	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown if necessary • Reference Applicable Emitting Unit/Control Device SSM Plan • Complete Proficy database for event

2.8 LOW VOLUME HIGH CONCENTRATION (LVHC) GAS TREATMENT

2.8.1 PROCESS DESCRIPTION

The Thermal Oxidizer at the Pensacola Mill serves as the primary control device for treating LVHC gases collected from the MACT regulated systems. The Lime Kiln serves as the back-up control device for periods of upset conditions and maintenance on the Thermal Oxidizer. The LVHC gases are introduced directly into the burner flame zone through concentric burners in both the Thermal Oxidizer and the Lime Kiln. Burner management logic prevents gases from being introduced into either unit until the appropriate operating conditions have been met. The Thermal Oxidizer has been designed to comply with the residence time/temperature requirements of the MACT Regulations. The Lime Kiln has more than adequate residence time and cannot be operated below the required temperature and still produce the quality product required to operate the mill. As such, there is no CMS variable for the Lime Kiln needed while treating LVHC gases. There is only one CMS required for the Thermal Oxidizer which is the fire box temperature.

2.8.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

LVHC treatment devices themselves are not MACT I regulated systems, therefore startup, shutdown and malfunctions of the Thermal Oxidizer and Lime Kiln are only relevant to this Plan in terms of their ability to control the LVHC gases. LVHC gases will not be routed to the Thermal Oxidizer or the Kiln during normal startup or shutdown conditions. However, a Thermal Oxidizer or Kiln malfunction could occur while burning the LVHC gases and, therefore, Thermal Oxidizer and Kiln malfunction events are addressed in the following section. The term malfunction is defined in the regulations as:

Malfunction - *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. Failures that are caused in part*

by poor maintenance or careless operation are not malfunctions.

2.8.2.1 Malfunction Events

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.

A summary of malfunction events for the LVHC Incineration System are provided below.

LVHC Treatment System Malfunctions		
Excess Emission	**Cause**	**Corrective Actions**
Thermal Oxidizer Flame Failure/Temperature Low	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Switch LVHC gases to Lime Kiln • Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown LVHC emitting units if necessary • Complete Proficy database for event
Lime Kiln Flame Failure	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Switch LVHC gases to Thermal Oxidizer • Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Implement the Mill's NCG Contingency Plan • Shutdown LVHC emitting units if necessary • Complete Proficy database for event

LVHC TREATMENT SYSTEM CMS EVENTS		
Malfunction Event	**Cause**	**Corrective Actions**
Thermal Oxidizer Incineration Temperature Signal Error	• DCS Malfunction • PI System Malfunction • Process Malfunction • Instrument Malfunction • Routine Maintenance • Thermal Oxidizer Shut Down • Other	• No action required • Temperature verified; repair malfunction • Identify and repair malfunction • Return signal after maintenance completed • Other • Complete Proficy database for event

2.9 B-LINE BLEACH PLANT SYSTEM

2.9.1 PROCESS DESCRIPTION

The B-Line Bleach Plant System at the Pensacola Mill uses 100% chlorine dioxide substitution in the D, EoP, D Bleaching sequence to bleach softwood produced by the Mill's Batch Digester System. Washed pulp first passes through an oxygen delignification process before entering the blend chest at the Bleach plant. The Blend Chest is used to control consistency and pH of the stock entering the D0 tower. Chlorine dioxide is mixed with the pulp in a chemical mixer at the bottom of the D0 tower and the pulp flows upward through the tower. The pulp then passes through the D0 washer to wash out spent bleaching chemicals and removed lignin. In the extraction (Eop) stage, the pulp is reacted with caustic, oxygen and hydrogen peroxide. The pulp is subsequently washed in the EoP washer before entering another chemical mixer where chlorine dioxide is mixed with the pulp for the final D1 stage Bleaching. The D1 stage is configured similarly to the D0 stage. Chlorine dioxide bleaching towers, bleach plant washers following the chlorine dioxide towers, the seal pits associated with the bleach plant washers and the bleach plant sewer are vented to a 2-stage scrubbing system that uses white liquor to remove chlorine compound emissions in the bleach plant exhaust gases.

The EPA defines a ***Bleaching System*** as follows:

> "*Bleaching system* means all process equipment after high-density pulp storage prior to the first application of oxidizing chemicals or reducing chemicals following the pulping system, up to and including the final Bleaching stage."

The EPA also defines ***Bleaching*** as follows:

> "*Bleaching* means brightening of pulp by the addition of oxidizing chemicals or reducing chemicals."

The EPA also defines ***Bleaching Line*** as follows:

"*Bleaching line* means a group of Bleaching stages arranged in series such that Bleaching of the pulp progresses as the pulp moves from one stage to the next."

The EPA also defines ***Bleaching Stage*** as follows:

"*Bleaching stage* means all process equipment associated with a discrete step of chemical application and removal in the Bleaching process including chemical and steam mixers, Bleaching towers, washers, seal (filtrate) tanks, vacuum pumps, and any other equipment serving the same function as those previously listed."

Based on this definition, the MACT-regulated equipment associated with the B-Line Bleach Plant System is detailed in Table 4.2-1:

Table 4.2-1
B-Line Bleach Plant System [(a)]
List of MACT-Regulated Equipment

Equipment Description
Blend Chest
Spill Tank
Chemical mixers
D_0 Tower
D_0 Washer
D_0 Seal Tank
D_1 Tower
D_1 Washer
D_1 Seal Tank
Large Scrubber Fan
1st and 2nd Stage Scrubbers

[(a)] The MACT-regulated system also includes all pumps, valves, flanges, piping, and other related equipment associated with the regulated system.

Please note: The Bleaching System does not include caustic towers, extraction washers, or associated filtrate tanks.

Figure 4-2 depicts the general arrangement of the B-Line Bleach Plant System. The components of the B-Line Bleach Plant System that are regulated under the MACT rules and must be considered in terms of SSM events have been included. Areas in the system where MACT regulated releases could possibly occur are also noted.

2.9.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions. A separate section for each of these operating conditions is discussed below.

2.9.2.1 Process Operating Time

The B-Line Bleach Plant System will considered to have the potential to emit LVHC gases as shown below.

	Indication of PTE = CAN EMIT	Startup Complete PTE = CAN EMIT	Shutdown Initiated PTE = CAN EMIT	Indication of PTE = CAN NOT EMIT

B-Line Bleach Plant	Combined ClO2 flow to the Do and the D1 stages is >25 gpm or the stock flow to the D1 washer is > 200 gpm	Steady-state Bleach plant operation following initial discharge of pulp from last D-stage washer	Shutdown begins when the system vent fan is deactivated	Combined ClO2 flow to the Do and the D1 stages is <25 gpm for 60 minutes and the stock flow to the D1 washer is <200 gpm

2.9.2.2 Startup Procedures

The exact procedures and the transition between startup and normal operations are event-specific and few system startups are completed in the identical timeframe with the identical steps noted here. Minor malfunctions may occur to process equipment that delay the transition from startup to normal operating conditions. To account for this, startup of the B-Line Bleach Plant System is considered to be complete once steady state operations have been achieved and pulp begins to be discharged from the D1 stage washer.

There are two different types of startup conditions for the B-Line Bleach Plant System: a "hot" startup and a "cold" startup.

- A "cold" startup is defined as a startup following a prolonged shutdown or mill outage.
- A "hot" startup is defined as a startup following a short-duration shutdown where process materials may still be present in system components.

Provided below in Table 4.2-2 is an outline of the Startup procedures for the Bleach Plant System. The steps have been identified as applicable to either a "hot" startup, "cold" startup, or both. Please note, the completion of startup and the transition to normal operations is defined above and is consistent for both "hot" and "cold" startup conditions.

TABLE 4.2-2
B-LINE BLEACH PLANT SYSTEM
STARTUP PROCEDURES

Procedure	Hot	Cold
1. Introduce white liquor to second stage of scrubber		✓
2. Confirm second stage liquid level		✓
3. Start second stage liquid circulation pump to first stage		✓
4. Confirm pH settings		✓
5. Start first stage liquid circulation pump		✓
6. Verify automatic pH reading > 10.0		✓
7. Start vent fan		✓
8. Confirm Steady-state Bleach plant operation following initial discharge of pulp from last D-stage washer (end of startup)		✓
9. End Startup		✓

*The following Operating Procedures are **mandatory** during Startup to minimize emissions:*

- Confirm that the Bleach plant scrubber system is fully operational.
- Confirm that the exhaust gas dampers are correctly positioned.
- Confirm that the scrubber liquor feed and discharge systems are fully functional.
- Confirm pH is above set point minimum

2.9.2.3 Shutdown Procedures

A Summary of Shutdown Procedures is provided in Table 4.2-3. Except for unique situations, the procedures shall be followed for all shutdowns of the Bleach Plant Scrubber System. ***Shutdown begins when the system vent fan is deactivated***. All subsequent steps are considered to be steps in the Bleach Plant Scrubber System shutdown procedure intended to minimize any MACT regulated releases during the shutdown process.

TABLE 4.2-3
B-LINE BLEACH PLANT SCRUBBER SYSTEM
SHUTDOWN PROCEDURES

Procedure	Hot	Cold
1. Confirm Bleach Plant down		✓
2. Shut down vent fan (Begin Shutdown)		✓
3. Stop white liquor flow to scrubber		✓
4. Shut down scrubber liquid circulation pumps		✓
5. Drain scrubbers if necessary		✓
6. End of Shutdown		✓

*The following Operating Procedures are **mandatory** during Shutdown to minimize emissions:*

- All Bleaching operations must be discontinued prior to shutdown of the vent fan and Bleach plant scrubber system.

2.9.2.4 Malfunction Events

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.

In the event of an instrument or process control system malfunction, compliance will be demonstrated through manual readings of the applicable variable (fan amps, re-circulation pump amps or pH) until the trouble is corrected and the automatic monitoring system is put back into service. These manual readings will be taken once per hour during the period that automatic readings are unavailable. Verification that these readings can be used to demonstrate compliance will be obtained during the initial performance test.

A summary of malfunction events for the B-Line Bleach Plant System is provided below.

Note: Malfunctions that are associated with startup or shutdown conditions are covered under Startup and Shutdown Procedures of this plan.

B-Line Bleach Plant MALFUNCTIONS		
Excess Emission Event	**Cause**	**Corrective Actions**
Large Scrubber Fan Amps Out of Range	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event
1st Stage Re-circulation Pump Amps Out of Range	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event
2nd Stage Re-circulation Pump Amps Out of Range	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Shutdown if necessary • Complete Proficy database for event

B-Line Bleach Plant MALFUNCTIONS		
Excess Emission Event	**Cause**	**Corrective Actions**
Scrubber pH Out of Range	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Run manual pH measurement if needed • Shutdown if necessary • Complete Proficy database for event

B-Line Bleach Plant CMS MALFUNCTIONS		
CMS Event	**Cause**	**Corrective Actions**
Large Fan Amp Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event

pH Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Run manual pH measurements if needed; identify and repair malfunction • Complete Proficy database for event
1st Stage Recirculation Amp signal error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event
2nd Stage Recirculation Amp signal error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event

2.10 Clarifier Divert System

2.10.1 Process Description

The Pensacola Mill received approval from the Florida Department of Environmental Protection to implement the Clean Condensate Alternative (CCA) in lieu of high volume low concentration (HVLC) NCG collection. This project includes the installation of twin primary clarifiers at the waste water treatment plant to replace the 11 acre settling basin for removal of primary solids. The settling basin was converted to a multi-surge basin (MSB) to protect the WWTP from in-mill process upsets and excessive rainfall. Emission credits will be gained from the reduction of methanol emissions due to the reduction in surface area available for volatilization and through maximizing the Mill's capability to collect and treat methanol in excess of the 11.1 #/ODTUP required for MACT I Phase I. EPA approved Water 9 modeling has been completed to establish baseline emissions and verify, through an initial performance test (IPT), that the emissions reductions are sufficient to offset the reductions that would have been achieved from implementing HVLC collection and treatment.

The physical components being monitored for compliance verification are the two divert gates/valves that allow high loading primary effluent to be diverted to the MSB either pre or post clarifier. This divert ability is needed to protect the biological integrity of the WWTP from in-mill process upsets and excessive rainfall as well as to allow repair of the clarifier system in the event of a catastrophic failure.

2.10.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions. The terms startup, shutdown, and malfunction are defined in the regulations as:

> **Startup** - *Startup means the setting in operation of an affected source for any purpose.*

Shutdown - *Shutdown means the cessation of operation of an affected source for any purpose.*

Malfunction - *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. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.*

A separate section for each of these operating conditions is discussed below.

2.10.2.1 Startup

The primary clarifiers were designed to have the capacity for the Mill to run on one clarifier for an extended period of time. Therefore, it is not anticipated that a clarifier start-up will result in diversion to the MSB and subsequently increased emissions. The following section describes the start-up procedure for the clarifiers system:

START-UP PROCEDURES CLARIFIERS

STEP 1: Start Clarifier Rake Motor(s) as required.

STEP 2: Start Clarifier Underflow Pump(s) as required.

2.10.2.2 Shutdown

The primary clarifiers were designed to have the capacity for the Mill to run on one clarifier for an extended period of time. Therefore, it is not anticipated that a clarifier shut down will result in diversion to the MSB and subsequently increased emissions. The following section describes the shut down procedure for the clarifiers system:

SHUT DOWN PROCEDURES CLARIFIERS

STEP 1: Stop Clarifier Motor(s) as required.

STEP 2: Stop Clarifier Underflow pump(s) as required

2.10.2.3 Malfunction

Five types of malfunctions that can result in diversion to the MSB have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction and Excessive Rainfall. The first four malfunction types are applied to both the clarifiers themselves as well as Mill processes that could impact the viability of the aeration stabilization (ASB) system. Each type of malfunction is addressed in this Plan.

Excess Emission Event	Cause	Corrective Actions
Pre-Clarifier Divert To MSB	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Excessive Rainfall • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Monitor effluent flow and return to normal ASAP • Complete Proficy database for event • Shutdown if necessary
Post Clarifier Divert To MSB	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Exessive Rainfall • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Monitor effluent flow and return to normal ASAP • Complete Proficy database for event • Shutdown if necessary

2.11 Condensate Collection

2.11.1 Process Description

The condensate collection system configuration does not change significantly due to the implementation of CCA. Therefore, if there are questions about the system configuration, please refer to section 2 of this document. The only change that is related to the CCA project is that we now have a driving force to increase methanol collection/treatment in the #2

Stripper. There are two proposals to the FDEP to track MeOH collection and get CCA credits for collecting an amount greater than the 11.1 #/ODTUP required for MACT I Phase II. The initial proposal was that the Mill would collect at least 13 #/ODTUP to the #2 Stripper and have a fixed amount of time that the Mill could divert effluent to the MSB. Our Proficy system would trigger a CCA excess emission event for condensate collection anytime the 15 day average dropped below 13 #/ODTUP and MACT I Phase I condensate collection event if the collection dropped below 11.1 #/ODTUP. The second proposal is to use a credits/debits system to calculate the project's net methanol impact on a daily basis. This system would not have hard targets for additional methanol collection or hard limits on the MSB usage. Instead, the baseline and IPT Water 9 model results along with site specific data for HVLC source emission factors will be used to calculate the net impact to methanol emissions. When the stripper is down, the system will calculate less credits due to the methanol that was being stripped will be treated biologically. Also, there will be no hard limit on the amount of time the MSB could be used; if effluent is diverted to the settling basin, the emissions increase will be calculated based on the site specific emission data already established. Conversely, if we collect more methanol in the stripper, the emissions from the WWTP will be reduced and Proficy will calculate a credit. The Mill will be deemed to be in compliance with the rule as long as the 15 day average has a positive credit balance when compared to the debits.

2.11.2 Startup, Shutdown, Malfunction events

see section 2

2.11.2.1 Startup

see section 2

2.11.2.2 Shutdown

see section 2

2.11.2.3 Malfunction

see section 2

PART II

MACT II SOURCES

40 CFR 63, Subpart M – Chemical Recovery Combustion Sources NESHAP

3. RECOVERY BOILERS

3.1 RECOVERY BOILERS 1 AND 2

3.1.1 PROCESS DESCRIPTION

Recovery Boilers #1 and #2. These are a low odor design recovery boilers manufactured by Babcock and Wilcox. Each unit is a 655 MMBtu/hr heat input boiler designed to burn a maximum of 111,000 pounds per hour of virgin black liquor solids and recover 42,319 pounds of smelt per hour. Black liquor is normally used for fuel but natural gas, number 4, number 5, or number 6 fuel oils may be used as a backup fuel at a maximum heat input rate of 572 MMBtu/hr. Each unit has a Koppers dual chamber electrostatic precipitator to control particulate emissions. Total reduced sulfur emissions are monitored with a continuous emission monitor (CEM) system.

3.1.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions.

3.1.2.1 Process Operating Time

The No.1 and No.2 Recovey Boilers will considered to have the potential to emit LVHC gases as shown below.

	Indication of PTE = CAN EMIT	Startup Complete PTE = CAN EMIT	Shutdown Initiated PTE = CAN EMIT	Indication of PTE = CAN NOT EMIT
No.1 and No.2 Recovery Boilers	Firing black liquor	Black Liquor Solids Firing Rate = 2.4 MM lbs./day for 24 consecutive hours	Black liquor firing is reduced with the intention of taking the boiler down.	If ANY of the following are true: 1) No guns in boiler for >240 minutes, 2) Liquor Divert valve position equals "divert" for >240 minutes, 3) No steam flow for >240 minutes, 4) Wash operate switch position equals "ON"

3.1.2.2 Startup Procedures

Startup Procedures for the Recovery Boilers are detailed in the Recovery Boiler Training documents maintained by the Area Training Coordinator.

The exact procedures and the transition between startup and normal operations are event-specific and few system startups are completed in the identical timeframe with the identical steps noted here. Minor malfunctions may occur to process equipment that delay the transition from startup to normal operating conditions. To account for this, startup of a Recovery Boiler is considered

to be complete when the Black Liquor Solids Firing Rate = 2.4 MM lbs./day for 24 consecutive hours.

The following Operating Procedures are used during Startup to minimize emissions:

- Confirm the operation of the Electrostatic Precipitator.
- Confirm that the Continuous Opacity Monitor is operational.
- ***Once confirmation is obtained***, startup of the Recovery Boilers can be initiated. This will ensure that any particulate matter generated will be vented through the control device.

3.1.2.3 Shutdown Procedures

Startup Procedures for the Recovery Boilers are detailed in the Recovery Boiler Training documents maintained by the Area Training Coordinator.

Shutdown begins when black liquor firing is reduced with the intention of taking the boiler down.

3.1.2.4 Malfunction Events

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.
Note: Malfunctions that are associated with startup or shutdown conditions are covered under Startup and Shutdown Procedures of this plan.

A summary of excess emission/malfunction events for the Recovery Boilers is provided below.

Recovery Boiler System Malfunctions		
Excess Emission	**Cause**	**Corrective Actions**
Opacity High	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Follow the Trouble Cause Correction Procedures • Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Complete Proficy database for event

Recovery Boiler CMS Malfunctions

CMS Event	Cause	Corrective Actions
Opacity Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Opacity verified; identify and repair malfunction • Complete Proficy database for event

3.2 SMELT DISSOLVING TANKS

3.2.1 PROCESS DESCRIPTION

Smelt Dissolving Tanks #1 and #2. Each tank is rated to receive a maximum of 42,319 pounds per hour of molten smelt consisting primarily of sodium carbonate, sodium sulfide and sodium sulfate from the recovery boiler(s). The smelt is dissolved in weak wash to yield green liquor for the slaking process. Particulate emissions are controlled by a wet venturi scrubber manufactured by Air Pol.

3.2.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions.

3.2.2.1 Process Operating Time

The Smelt Dissolving Tanks will considered to have the potential to emit LVHC gases as shown below.

	Indication of PTE = CAN EMIT	Startup Complete PTE = CAN EMIT	Shutdown Initiated PTE = CAN EMIT	Indication of PTE = CAN NOT EMIT
Smelt Dissolving Tanks	Firing black liquor	Black Liquor Solids Firing Rate = 2.4 MM lbs./day	Black liquor firing is reduced with the intention	If ANY of the following are true: 1) No guns in boiler for

		for 24 consecutive hours	of taking the boiler down.	>240 minutes, 2) Liquor Divert valve position equals "divert" for >240 minutes, 3) No steam flow for >240 minutes, 4) Wash operate switch position equals "ON"

3.2.2.2 Startup Procedures

Startup Procedures for the Smelt Dissolving Tanks are detailed in the Recovery Boiler Training documents maintained by the Area Training Coordinator.

The exact procedures and the transition between startup and normal operations are event-specific and few system startups are completed in the identical timeframe with the identical steps noted here. Minor malfunctions may occur to process equipment that delay the transition from startup to normal operating conditions. To account for this, startup of a Smelt Dissolving Tank is considered to be complete when the Associated Recovery Boiler Black Liquor Solids Firing Rate = 2.4 MM lbs./day for 24 consecutive hours.

The smelt dissolving tanks will have a potential to emit exists when a black liquor gun is put in the corresponding recovery boiler.

The following Operating Procedures are used during Startup to minimize emissions:

- Confirm the operation of the Scrubber.

- Confirm that the dP and Flow have reached appropriate levels.
- ***Once confirmation is obtained***, startup of the Smelt Dissolving Tanks can be initiated. This will ensure that any particulate matter generated will be vented through the control device.

3.2.2.3 Shutdown Procedures

Shutdown Procedures for the Smelt Dissolving Tanks are detailed in the Recovery Boiler Training documents maintained by the Area Training Coordinator.

Shutdown begins when black liquor firing is reduced with the intention of taking the boiler down.

The following Operating Procedures are ***mandatory*** *during Shutdown to minimize emissions:*

- The scrubber shall remain in operation until the associated recovery boiler has no potential to emit.

3.2.2.4 Malfunction Events

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.

Note: Malfunctions that are associated with startup or shutdown conditions are covered under Startup and Shutdown Procedures of this plan.

A summary of excess emission/malfunction events for the Smelt Dissolving Tanks is provided below.

Smelt Dissolving Tank Malfunctions		
Excess Emission	**Cause**	**Corrective Actions**
Scrubber Flow below minimum requirement	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Complete Proficy database for event
Scrubber dP below minimum requirement	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Complete Proficy database for event
Smelt Dissolving Tank Bypass Damper Open	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Complete Proficy database for event

Smelt Dissolving Tank CMS Malfunctions		
CMS Event	**Cause**	**Corrective Actions**
Scrubber Flow Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event
Scrubber dP Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • dP verified; identify and repair malfunction • Complete Proficy database for event

3.3 LIME KILN

3.3.1 PROCESS DESCRIPTION

A natural gas, or No.6, No.5 or No.4 fuel oil, fired kiln with a maximum operating rate of 20.83 tons per hour of lime as CaO. The Kiln produces CaO by calcining calcium carbonate recovered from the white liquor system. The kiln also serves as a backup control device for the LVHC system. Emissions are controlled by an electrostatic precipitator which is vented in series to a Ducon Ventri-Rod wet scrubber using mill water and weak wash as the scrubbing media.

3.3.2 STARTUP, SHUTDOWN, MALFUNCTION EVENTS

This section provides a summary of startup, shutdown, and malfunction events and the corresponding corrective measures or appropriate actions.

3.3.2.1 Process Operating Time

The Lime Kiln will considered to have the potential to emit LVHC gases as shown below.

	Indication of PTE = CAN EMIT	Startup Complete PTE = CAN EMIT	Shutdown Initiated PTE = CAN EMIT	Indication of PTE = CAN NOT EMIT
Lime Kiln	Flow to the mud filters and the Filtered Mud Belt Direction =	Combined flow to Mud Filters >150 gpm for 24 Hours AND Filtered Mud Belt	Mud is taken out of the kiln with the intention of taking the kiln down	Mud Flow to #1 Filter <25 gpm for 4 Hours AND Mud Flow to #2 Filter <25 gpm for 4 Hours OR

	Lime Mud Dryer	Direction = To Lime Mud Dryer		Filtered Mud Belt Direction = To Grade for 4 Hours

3.3.2.2 Startup Procedures

Startup Procedures for the Lime Kiln are detailed in the Lime Kiln training documents maintained by the Area Training Coordinator.

The exact procedures and the transition between startup and normal operations are event-specific and few system startups are completed in the identical timeframe with the identical steps noted here. Minor malfunctions may occur to process equipment that delay the transition from startup to normal operating conditions. The end of the startup period is defined to be when the combined flow to Mud Filters >150 gpm for 24 Hours AND Filtered Mud Belt Direction = To Lime Mud Dryer.

*The following Operating Procedures are **mandatory** during Startup to minimize emissions:*

- Confirm the operation of the Electrostatic Precipitator.
- Confirm Operation of the wet scrubber
- Confirm that the Continuous Opacity Monitor is operational
- Confirm that the continuous parameter monitoring system is operational.
- ***Once confirmation is obtained***, startup of the Lime Kiln. This will ensure that any particulate matter generated will be vented through to the control devices.

3.3.2.3 Shutdown Procedures

Shutdown Procedures for the Lime Kiln are detailed in the Lime Kiln Training documents maintained by the Area Training Coordinator.

Shutdown begins when Mud flow to the filters is reduced with the intention of shutting down the Lime Kiln.

*The following Operating Procedures are **mandatory** during Shutdown to minimize emissions:*

- Continue operation of the Electrostatic Precipitator until the potential to emit equals "CAN NOT EMIT".
- Continue operation of the wet scrubber until the potential to emit equals "CAN NOT EMIT".

3.3.2.4 Malfunction Events

Four types of malfunctions that can result in excess MACT emissions have been defined: Process Malfunctions, Equipment Malfunctions, Electrical Malfunctions and Instrument/PCS Malfunction. Each type of malfunction is addressed in this Plan. A description of each type of malfunction was given earlier in this document.

A summary of excess emission/malfunction events for the Lime Kiln is provided below.

Lime Kiln Malfunctions		
Excess Emission	**Cause**	**Corrective Actions**
Opacity High	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Complete Proficy database for event
Scrubber Flow below minimum requirement	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Complete Proficy database for event
Lime Kiln production rate above maximum limit or below minimum limit	• Electrical Malfunction • Mechanical Malfunction • Process Malfunction • Instrument/PCS Malfunction • Start-up/Shut Down	• Identify and correct malfunction • Enter work request in SAP for repair/tracking if needed • Complete Proficy database for event

Lime Kiln CMS Malfunctions		
CMS Event	**Cause**	**Corrective Actions**
Scrubber Flow Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event
Opacity Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Opacity verified; identify and repair malfunction • Complete Proficy database for event
#1 Mud Filter Flow Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event

#1 Mud Filter Density Meter Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Density verified; identify and repair malfunction • Complete Proficy database for event
#2 Mud Filter Flow Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Flow verified; identify and repair malfunction • Complete Proficy database for event
#2 Mud Filter Density Meter Signal Error	• PI System Malfunction • Routine Maintenance • Instrument Malfunction • DCS Malfunction • Shut Down • Other	• Identify and repair malfunction • Enter work request in SAP for repair/tracking if needed • No action required – System down • Return signal after maintenance is complete • Density verified; identify and repair malfunction • Complete Proficy database for event

e-CFR Data is current as of January 31, 2014

Subpart P - Protection of Visibility

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40 CFR 51.309 - Requirements related to the Grand Canyon Visibility Transport Commission.

AUTHORITY: Secs. 110, 114, 121, 160-169, 169A, and 301 of the Clean Air Act, (42 U.S.C. 7410, 7414, 7421, 7470-7479, and 7601).
SOURCE: 45 FR 80089, Dec. 2, 1980, unless otherwise noted.

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40 CFR 51.300 Purpose and applicability

(a) Purpose. The primary purposes of this subpart are to require States to develop programs to assure reasonable progress toward meeting the national goal of preventing any future, and remedying any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from manmade air pollution; and to establish necessary additional procedures for new source permit applicants, States and Federal Land Managers to use in conducting the visibility impact analysis required for new sources under 40 CFR 51.166. This subpart sets forth requirements addressing visibility impairment in its two principal forms: “reasonably attributable” impairment (i.e., impairment attributable to a single source/small group of sources) and regional haze (i.e., widespread haze from a multitude of sources which impairs visibility in every direction over a large area).

(b) Applicability

(1) General Applicability. The provisions of this subpart pertaining to implementation plan requirements for assuring reasonable progress in preventing any future and remedying any existing visibility impairment are applicable to:

(i) Each State which has a mandatory Class I Federal area identified in 40 CFR 81 Subpart D, of this title, and (ii) each State in which there is any source the emissions from which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area.

(2) The provisions of this subpart pertaining to implementation plans to address reasonably attributable visibility impairment are applicable to the following states:

Alabama, Alaska, Arizona, Arkansas, California, Colorado, Florida, Georgia, Hawaii, Idaho, Kentucky, Louisiana, Maine, Michigan, Minnesota, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Virgin Islands, Washington, West Virginia, Wyoming.

(3) The provisions of this subpart pertaining to implementation plans to address regional haze visibility impairment are applicable to all States as defined in section 302(d) of the Clean Air Act (CAA) except Guam, Puerto Rico, American Samoa, and the Northern Mariana Islands.

[45 FR 80089, Dec. 2, 1980, as amended at 64 FR 35763, July 1, 1999]

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40 CFR 51.301 Definitions

For purposes of this subpart:

Adverse impact on visibility means, for purposes of section 307, visibility impairment which interferes with the management, protection, preservation, or enjoyment of the visitor's visual experience of the Federal Class I area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency and time of visibility impairments, and how these factors correlate with (1) times of visitor use of the Federal Class I area, and (2) the frequency and timing of natural conditions that reduce visibility. This term does not include effects on integral vistas.

Agency means the U.S. Environmental Protection Agency.

BART-eligible source means an existing stationary facility as defined in this section.

Best Available Retrofit Technology (BART) means an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.

Building, structure, or facility means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities must be considered as part of the same industrial grouping if they belong to the same Major Group (i.e., which have the same two-digit code) as described in the Standard Industrial Classification Manual, *1972* as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 4101-0066 and 003-005-00176-0 respectively).

Deciview means a measurement of visibility impairment. A deciview is a haze index derived from calculated light extinction, such that uniform changes in haziness correspond to uniform incremental changes in perception across the entire range of conditions, from pristine to highly impaired. The deciview haze index is calculated based on the following equation (for the purposes of calculating deciview, the atmospheric light extinction coefficient must be calculated from aerosol measurements):

$$\text{Deciview haze index} = 10 \ln_e (b_{ext}/10\ \text{Mm}^{-1}).$$

Where

b_{ext}=the atmospheric light extinction coefficient, expressed in inverse megameters (Mm^{-1}).

Existing stationary facility means any of the following stationary sources of air pollutants, including any reconstructed source, which was not in operation prior to August 7, 1962, and was in existence on August 7, 1977, and has the potential to emit 250 tons per year or more of any air pollutant. In determining potential to emit, fugitive emissions, to the extent quantifiable, must be counted.

Fossil-fuel fired steam electric plants of more than 250 million British thermal units per hour heat input,

Coal cleaning plants (thermal dryers),

Kraft pulp mills,

Portland cement plants,
Primary zinc smelters,
Iron and steel mill plants,
Primary aluminum ore reduction plants,
Primary copper smelters,
Municipal incinerators capable of charging more than 250 tons of refuse per day,
Hydrofluoric, sulfuric, and nitric acid plants,
Petroleum refineries,
Lime plants,
Phosphate rock processing plants,
Coke oven batteries,
Sulfur recovery plants,
Carbon black plants (furnace process),
Primary lead smelters,
Fuel conversion plants,
Sintering plants,
Secondary metal production facilities,
Chemical process plants,
Fossil-fuel boilers of more than 250 million British thermal units per hour heat input,
Petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels,
Taconite ore processing facilities,
Glass fiber processing plants, and
Charcoal production facilities.

Federal Class I area means any Federal land that is classified or reclassified Class I.

Federal Land Manager means the Secretary of the department with authority over the Federal Class I area (or the Secretary's designee) or, with respect to Roosevelt-Campobello International Park, the Chairman of the Roosevelt-Campobello International Park Commission.

Federally enforceable means all limitations and conditions which are enforceable by the Administrator under the Clean Air Act including those requirements developed pursuant to 40 CFR 60 and 61, requirements within any applicable State Implementation Plan, and any permit requirements established pursuant to 40 CFR 52.21 of this chapter or under regulations approved pursuant to 40 CFR 51, 52, or 60.

Fixed capital cost means the capital needed to provide all of the depreciable components.

Fugitive Emissions means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

Geographic enhancement for the purpose of 40 CFR 51.308 means a method, procedure, or process to allow a broad regional strategy, such as an emissions trading program designed to achieve greater reasonable progress than BART for regional haze, to accommodate BART for reasonably attributable impairment.

Implementation plan means, for the purposes of this part, any State Implementation Plan, Federal Implementation Plan, or Tribal Implementation Plan.

Indian tribe or *tribe* means any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village, which is federally recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

In existence means that the owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, State, or local air pollution emissions and air quality laws or regulations and either has (1) begun, or caused to begin, a continuous program of physical on-site construction of the facility or (2) entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed in a reasonable time.

In operation means engaged in activity related to the primary design function of the source.

Installation means an identifiable piece of process equipment.

Integral vista means a view perceived from within the mandatory Class I Federal area of a specific landmark or panorama located outside the boundary of the mandatory Class I Federal area.

Least impaired days means the average visibility impairment (measured in deciviews) for the twenty percent of monitored days in a calendar year with the lowest amount of visibility impairment.

Major stationary source and major modification mean major stationary source and major modification, respectively, as defined in 40 CFR 51.166.

Mandatory Class I Federal Area means any area identified in 40 CFR 81 Subpart D.

Most impaired days means the average visibility impairment (measured in deciviews) for the twenty percent of monitored days in a calendar year with the highest amount of visibility impairment.

Natural conditions includes naturally occurring phenomena that reduce visibility as measured in terms of light extinction, visual range, contrast, or coloration.

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 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. Secondary emissions do not count in determining the potential to emit of a stationary source.

Reasonably attributable means attributable by visual observation or any other technique the State deems appropriate.

Reasonably attributable visibility impairment means visibility impairment that is caused by the emission of air pollutants from one, or a small number of sources.

Reconstruction will be presumed to have taken place where the fixed capital cost of the new component exceeds 50 percent of the fixed capital cost of a comparable entirely new source. Any final decision as to whether reconstruction has occurred must be made in accordance with the provisions of 40 CFR 60.15 (f) (1) through (3) of this title.

Regional haze means visibility impairment that is caused by the emission of air pollutants from numerous sources located over a wide geographic area. Such sources include, but are not limited to, major and minor stationary sources, mobile sources, and area sources.

Secondary emissions means emissions which occur as a result of the construction or operation of an existing stationary facility but do not come from the existing stationary facility. Secondary emissions may include, but are not limited to, emissions from ships or trains coming to or from the existing stationary facility.

Significant impairment means, for purposes of 40 CFR 51.303, visibility impairment which, in the judgment of the Administrator, interferes with the management, protection, preservation, or enjoyment of the visitor's visual experience of the mandatory Class I Federal area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency and time of the visibility impairment, and how these factors correlate with (1) times of visitor use of the mandatory Class I Federal area, and (2) the frequency and timing of natural conditions that reduce visibility.

State means “State” as defined in section 302(d) of the CAA.

Stationary Source means any building, structure, facility, or installation which emits or may emit any air pollutant.

Visibility impairment means any humanly perceptible change in visibility (light extinction, visual range, contrast, coloration) from that which would have existed under natural conditions.

Visibility in any mandatory Class I Federal area includes any integral vista associated with that area.

[45 FR 80089, Dec. 2, 1980, as amended at 64 FR 35763, 35774, July 1, 1999]

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40 CFR 51.302 - Implementation control strategies for reasonably attributable visibility impairment

(a) Plan Revision Procedures.

(1) Each State identified in 40 CFR 51.300(b)(2) must have submitted, not later than September 2, 1981, an implementation plan meeting the requirements of

this subpart pertaining to reasonably attributable visibility impairment.

(2)

(i) The State, prior to adoption of any implementation plan to address reasonably attributable visibility impairment required by this subpart, must conduct one or more public hearings on such plan in accordance with 40 CFR 51.102.

(ii) In addition to the requirements in 40 CFR 51.102, the State must provide written notification of such hearings to each affected Federal Land Manager, and other affected States, and must state where the public can inspect a summary prepared by the Federal Land Managers of their conclusions and recommendations, if any, on the proposed plan revision.

(3) Submission of plans as required by this subpart must be conducted in accordance with the procedures in 40 CFR 51.103.

(b) State and Federal Land Manager Coordination.

(1) The State must identify to the Federal Land Managers, in writing and within 30 days of the date of promulgation of these regulations, the title of the official to which the Federal Land Manager of any mandatory Class I Federal area can submit a recommendation on the implementation of this subpart including, but not limited to:

(i) A list of integral vistas that are to be listed by the State for the purpose of implementing section 304,

(ii) Identification of impairment of visibility in any mandatory Class I Federal area(s), and

(iii) Identification of elements for inclusion in the visibility monitoring strategy required by section 305.

(2) The State must provide opportunity for consultation, in person and at least 60 days prior to holding any public hearing on the plan, with the Federal Land Manager on the proposed SIP revision required by this subpart. This consultation must include the opportunity for the affected Federal Land Managers to discuss their:

(i) Assessment of impairment of visibility in any mandatory Class I Federal area, and

(ii) Recommendations on the development of the long-term strategy.

(3) The plan must provide procedures for continuing consultation between the State and Federal Land Manager on the implementation of the visibility protection program required by this subpart.

(c) General plan requirements for reasonably attributable visibility impairment.

(1) The affected Federal Land Manager may certify to the State, at any time, that there exists reasonably attributable impairment of visibility in any mandatory Class I Federal area.

(2) The plan must contain the following to address reasonably attributable impairment:

(i) A long-term (10-15 years) strategy, as specified in 40 CFR 51.305 and 40 CFR 51.306, including such emission limitations, schedules of compliance, and such other measures including schedules for the implementation of the elements of the long-term strategy as may be necessary to make reasonable progress toward the national goal specified in 40 CFR 51.300(a).

(ii) An assessment of visibility impairment and a discussion of how each element of the plan relates to the preventing of future or remedying of existing impairment of visibility in any mandatory Class I Federal area within the State.

(iii) Emission limitations representing BART and schedules for compliance with BART for each existing stationary facility identified according to paragraph (c)(4) of this section.

(3) The plan must require each source to maintain control equipment required by this subpart and establish procedures to ensure such control equipment is properly operated and maintained.

(4) For any existing reasonably attributable visibility impairment the Federal Land Manager certifies to the State under paragraph (c)(1) of this section, at least 6 months prior to plan submission or revision:

(i) The State must identify and analyze for BART each existing stationary facility which may reasonably be anticipated to cause or contribute to impairment of visibility in any mandatory Class I Federal area where the impairment in the mandatory Class I Federal area is reasonably attributable to that existing stationary facility. The State need not consider any integral vista the Federal Land Manager did not identify pursuant to 40 CFR 51.304(b) at least 6 months before plan submission.

(ii) If the State determines that technologicial or economic limitations on the applicability of measurement methodology to a particular existing stationary facility would make the imposition of an emission standard infeasible it may instead prescribe a design, equipment, work practice, or other operational standard, or combination thereof, to require the application of BART. Such standard, to the degree possible, is to set forth the emission reduction to be achieved by implementation of such design, equipment, work practice or operation, and must provide for compliance by means which achieve equivalent results.

(iii) BART must be determined for fossil-fuel fired generating plants having a total generating capacity in excess of 750 megawatts pursuant to "Guidelines for Determining Best Available Retrofit Technology for Coal-fired Power Plants and Other Existing Stationary Facilities" (1980), which is incorporated by reference, exclusive of Appendix E to the Guidelines, except that options more stringent than NSPS must be considered. Establishing a BART emission limitation equivalent to the NSPS level of control is not a sufficient basis to avoid the analysis of control options required by the guidelines. This document is EPA publication No. 450/3-80-009b and has been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR 51. It is for sale from the U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161. It is also available for inspection from the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: *http://www.archives.gov/federal_register/index.html*.

(iv) The plan must require that each existing stationary facility required to install and operate BART do so as expeditiously as practicable but in no case later than five years after plan approval.

(v) The plan must provide for a BART analysis of any existing stationary facility that might cause or contribute to impairment of visibility in any mandatory Class I Federal area identified under this paragraph (c)(4) at such times, as determined by the Administrator, as new technology for control of the pollutant becomes reasonably available if:

(A) The pollutant is emitted by that existing stationary facility,

(B) Controls representing BART for the pollutant have not previously been required under this subpart, and

(C) The impairment of visibility in any mandatory Class I Federal area is reasonably attributable to the emissions of that pollutant.

[45 FR 80089, Dec. 2, 1980, as amended at 57 FR 40042, Sept. 1, 1992; 64 FR 35764, 35774, July 1, 1999; 69 FR 18803, Apr. 9, 2004; 70 FR 39156, July 6, 2005]

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40 CFR 51.303 Exemptions from control

(a)

(1) Any existing stationary facility subject to the requirement under 40 CFR 51.302 to install, operate, and maintain BART may apply to the Administrator for an exemption from that requirement.

(2) An application under this section must include all available documentation relevant to the impact of the source's emissions on visibility in any mandatory Class I Federal area and a demonstration by the existing stationary facility that it does not or will not, by itself or in combination with other sources, emit any air pollutant which may be reasonably anticipated to cause or contribute to a significant impairment of visibility in any mandatory Class I Federal area.

(b) Any fossil-fuel fired power plant with a total generating capacity of 750 megawatts or more may receive an exemption from BART only if the owner or operator of such power plant demonstrates to the satisfaction of the Administrator that such power plant is located at such a distance from all mandatory Class I Federal areas that such power plant does not or will not, by itself or in combination with other sources, emit any air pollutant which may reasonably be anticipated to cause or contribute to significant impairment of visibility in any such mandatory Class I Federal area.

(c) Application under this 40 CFR 51.303 must be accompanied by a written concurrence from the State with regulatory authority over the source.

(d) The existing stationary facility must give prior written notice to all affected Federal Land Managers of any application for exemption under this 40 CFR 51.303.

(e) The Federal Land Manager may provide an initial recommendation or comment on the disposition of such application. Such recommendation, where provided, must be part of the exemption application. This recommendation is not to be construed as the concurrence required under paragraph (h) of this section.

(f) The Administrator, within 90 days of receipt of an application for exemption from control, will provide notice of receipt of an exemption application and notice of opportunity for public hearing on the application.
(g) After notice and opportunity for public hearing, the Administrator may grant or deny the exemption. For purposes of judicial review, final EPA action on an application for an exemption under this 40 CFR 51.303 will not occur until EPA approves or disapproves the State Implementation Plan revision.
(h) An exemption granted by the Administrator under this 40 CFR 51.303 will be effective only upon concurrence by all affected Federal Land Managers with the Administrator's determination.
[45 FR 80089, Dec. 2, 1980, as amended at 64 FR 35774, July 1, 1999]

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40 CFR 51.304 Identification of integral vistas

(a) On or before December 31, 1985 the Federal Land Manager may identify any integral vista. The integral vista must be identified according to criteria the Federal Land Manager develops. These criteria must include, but are not limited to, whether the integral vista is important to the visitor's visual experience of the mandatory Class I Federal area. Adoption of criteria must be preceded by reasonable notice and opportunity for public comment on the proposed criteria.
(b) The Federal Land Manager must notify the State of any integral vistas identified under paragraph (a) of this section, and the reasons therefor.
(c) The State must list in its implementation plan any integral vista the Federal Land Manager identifies at least six months prior to plan submission, and must list in its implementation plan at its earliest opportunity, and in no case later than at the time of the periodic review of the SIP required by 40 CFR 51.306(c), any integral vista the Federal Land Manager identifies after that time.
(d) The State need not in its implementation plan list any integral vista the indentification of which was not made in accordance with the criteria in paragraph (a) of this section. In making this finding, the State must carefully consider the expertise of the Federal Land Manager in making the judgments called for by the criteria for identification. Where the State and the Federal Land Manager disagree on the identification of any integral vista, the State must give the Federal Land Manager an opportunity to consult with the Governor of the State.
[45 FR 80089, Dec. 2, 1980, as amended at 64 FR 35774, July 1, 1999]

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40 CFR 51.305 Monitoring for reasonably attributable visibility impairment

(a) For the purposes of addressing reasonably attributable visibility impairment, each State containing a mandatory Class I Federal area must include in the plan a strategy for evaluating reasonably attributable visibility impairment in any mandatory Class I Federal area by visual observation or other appropriate monitoring techniques. Such strategy must take into account current and anticipated visibility monitoring research, the availability of appropriate monitoring techniques, and such guidance as is provided by the Agency.
(b) The plan must provide for the consideration of available visibility data and must provide a mechanism for its use in decisions required by this subpart.
[45 FR 80089, Dec. 2, 1980, as amended at 64 FR 35764, July 1, 1999]

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40 CFR 51.306 Long-term strategy requirements for reasonably attributable visibility impairment

(a)

(1) For the purposes of addressing reasonably attributable visibility impairment, each plan must include a long-term (10-15 years) strategy for making reasonable progress toward the national goal specified in 40 CFR 51.300(a). This strategy must cover any existing impairment the Federal Land Manager certifies to the State at least 6 months prior to plan submission, and any integral vista of which the Federal Land Manager notifies the State at least 6 months prior to plan submission.
(2) A long-term strategy must be developed for each mandatory Class I Federal area located within the State and each mandatory Class I Federal area located outside the State which may be affected by sources within the State. This does not preclude the development of a single comprehensive plan for all such areas.

(3) The plan must set forth with reasonable specificity why the long-term strategy is adequate for making reasonable progress toward the national visibility goal, including remedying existing and preventing future impairment.

(b) The State must coordinate its long-term strategy for an area with existing plans and goals, including those provided by the affected Federal Land Managers, that may affect impairment of visibility in any mandatory Class I Federal area.

(c) The plan must provide for periodic review and revision, as appropriate, of the long-term strategy for addressing reasonably attributable visibility impairment. The plan must provide for such periodic review and revision not less frequently than every 3 years until the date of submission of the State's first plan addressing regional haze visibility impairment in accordance with 40 CFR 51.308(b) and (c). On or before this date, the State must revise its plan to provide for review and revision of a coordinated long-term strategy for addressing reasonably attributable and regional haze visibility impairment, and the State must submit the first such coordinated long-term strategy. Future coordinated long-term strategies must be submitted consistent with the schedule for periodic progress reports set forth in 40 CFR 51.308(g). Until the State revises its plan to meet this requirement, the State must continue to comply with existing requirements for plan review and revision, and with all emission management requirements in the plan to address reasonably attributable impairment. This requirement does not affect any preexisting deadlines for State submittal of a long-term strategy review (or element thereof) between August 30, 1999, and the date required for submission of the State's first regional haze plan. In addition, the plan must provide for review of the long-term strategy as it applies to reasonably attributable impairment, and revision as appropriate, within 3 years of State receipt of any certification of reasonably attributable impairment from a Federal Land Manager. The review process must include consultation with the appropriate Federal Land Managers, and the State must provide a report to the public and the Administrator on progress toward the national goal. This report must include an assessment of:

(1) The progress achieved in remedying existing impairment of visibility in any mandatory Class I Federal area;

(2) The ability of the long-term strategy to prevent future impairment of visibility in any mandatory Class I Federal area;

(3) Any change in visibility since the last such report, or, in the case of the first report, since plan approval;

(4) Additional measures, including the need for SIP revisions, that may be necessary to assure reasonable progress toward the national visibility goal;

(5) The progress achieved in implementing BART and meeting other schedules set forth in the long-term strategy;

(6) The impact of any exemption granted under 40 CFR 51.303;

(7) The need for BART to remedy existing visibility impairment of any integral vista listed in the plan since the last such report, or, in the case of the first report, since plan approval.

(d) The long-term strategy must provide for review of the impacts from any new major stationary source or major modifications on visibility in any mandatory Class I Federal area. This review of major stationary sources or major modifications must be in accordance with 40 CFR 51.307, 40 CFR 51.166, 40 CFR 51.160, and any other binding guidance provided by the Agency insofar as these provisions pertain to protection of visibility in any mandatory Class I Federal areas.

(e) The State must consider, at a minimum, the following factors during the development of its long-term strategy:

(1) Emission reductions due to ongoing air pollution control programs,

(2) Additional emission limitations and schedules for compliance,

(3) Measures to mitigate the impacts of construction activities,

(4) Source retirement and replacement schedules,

(5) Smoke management techniques for agricultural and forestry management purposes including such plans as currently exist within the State for these purposes, and

(6) Enforceability of emission limitations and control measures.

(f) The plan must discuss the reasons why the above and other reasonable measures considered in the development of the long-term strategy were or were not adopted as part of the long-term strategy.

(g) The State, in developing the long-term strategy, must take into account the effect of new sources, and the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any affected existing source and equipment therein.

[45 FR 80089, Dec. 2, 1980, as amended at 64 FR 35764, 35774, July 1, 1999]

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40 CFR 51.307 New source review.

(a) For purposes of new source review of any new major stationary source or major modification that would be constructed in an area that is designated attainment or unclassified under section 107(d)(1)(D) or (E) of the CAA, the State plan must, in any review under 40 CFR 51.166 with respect to visibility protection and analyses, provide for:

(1) Written notification of all affected Federal Land Managers of any proposed new major stationary source or major modification that may affect visibility in any Federal Class I area. Such notification must be made in writing and include a copy of all information relevant to the permit application within 30 days of receipt of and at least 60 days prior to public hearing by the State on the application for permit to construct. Such notification must include an analysis of the anticipated impacts on visibility in any Federal Class I area,

(2) Where the State requires or receives advance notification (e.g. early consultation with the source prior to submission of the application or notification of intent to monitor under 40 CFR 51.166) of a permit application of a source that may affect visibility the State must notify all affected Federal Land Managers within 30 days of such advance notification, and

(3) Consideration of any analysis performed by the Federal Land Manager, provided within 30 days of the notification and analysis required by paragraph (a)(1) of this section, that such proposed new major stationary source or major modification may have an adverse impact on visibility in any Federal Class I area. Where the State finds that such an analysis does not demonstrate to the satisfaction of the State that an adverse impact will result in the Federal Class I area, the State must, in the notice of public hearing, either explain its decision or give notice as to where the explanation can be obtained.

(b) The plan shall also provide for the review of any new major stationary source or major modification:

(1) That may have an impact on any integral vista of a mandatory Class I Federal area, if it is identified in accordance with 40 CFR 51.304 by the Federal Land Manager at least 12 months before submission of a complete permit application, except where the Federal Land Manager has provided notice and opportunity for public comment on the integral vista in which case the review must include impacts on any integral vista identified at least 6 months prior to submission of a complete permit application, unless the State determines under 40 CFR 51.304(d) that the identification was not in accordance with the identification criteria, or

(2) That proposes to locate in an area classified as nonattainment under section 107(d)(1)(A), (B), or (C) of the Clean Air Act that may have an impact on visibility in any mandatory Class I Federal area.

(c) Review of any major stationary source or major modification under paragraph (b) of this section, shall be conducted in accordance with paragraph (a) of this section, and 40 CFR 51.166(o), (p)(1) through (2), and (q). In conducting such reviews the State must ensure that the source's emissions will be consistent with making reasonable progress toward the national visibility goal referred to in 40 CFR 51.300(a). The State may take into account the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the useful life of the source.

(d) The State may require monitoring of visibility in any Federal Class I area near the proposed new stationary source or major modification for such purposes and by such means as the State deems necessary and appropriate.

[45 FR 80089, Dec. 2, 1980, as amended at 64 FR 35765, 35774, July 1, 1999]

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40 CFR 51.308 Regional haze program requirements.

(a) What is the purpose of this section? This section establishes requirements for implementation plans, plan revisions, and periodic progress reviews to address regional haze.

(b) When are the first implementation plans due under the regional haze program? Except as provided in 40 CFR 51.309(c), each State identified in 40 CFR 51.300(b)(3) must submit, for the entire State, an implementation plan for regional haze meeting the requirements of paragraphs (d) and (e) of this section no later than December 17, 2007.

(c) [Reserved]

(d) What are the core requirements for the implementation plan for regional haze? The State must address regional haze in each mandatory Class I Federal area located within the State and in each mandatory Class I Federal area located outside the State which may be affected by emissions from within the State. To meet

the core requirements for regional haze for these areas, the State must submit an implementation plan containing the following plan elements and supporting documentation for all required analyses:

(1) Reasonable progress goals. For each mandatory Class I Federal area located within the State, the State must establish goals (expressed in deciviews) that provide for reasonable progress towards achieving natural visibility conditions. The reasonable progress goals must provide for an improvement in visibility for the most impaired days over the period of the implementation plan and ensure no degradation in visibility for the least impaired days over the same period.

(i) In establishing a reasonable progress goal for any mandatory Class I Federal area within the State, the State must:

(A) Consider the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected sources, and include a demonstration showing how these factors were taken into consideration in selecting the goal.

(B) Analyze and determine the rate of progress needed to attain natural visibility conditions by the year 2064. To calculate this rate of progress, the State must compare baseline visibility conditions to natural visibility conditions in the mandatory Federal Class I area and determine the uniform rate of visibility improvement (measured in deciviews) that would need to be maintained during each implementation period in order to attain natural visibility conditions by 2064. In establishing the reasonable progress goal, the State must consider the uniform rate of improvement in visibility and the emission reduction measures needed to achieve it for the period covered by the implementation plan.

(ii) For the period of the implementation plan, if the State establishes a reasonable progress goal that provides for a slower rate of improvement in visibility than the rate that would be needed to attain natural conditions by 2064, the State must demonstrate, based on the factors in paragraph (d)(1)(i)(A) of this section, that the rate of progress for the implementation plan to attain natural conditions by 2064 is not reasonable; and that the progress goal adopted by the State is reasonable. The State must provide to the public for review as part of its implementation plan an assessment of the number of years it would take to attain natural conditions if visibility improvement continues at the rate of progress selected by the State as reasonable.

(iii) In determining whether the State's goal for visibility improvement provides for reasonable progress towards natural visibility conditions, the Administrator will evaluate the demonstrations developed by the State pursuant to paragraphs (d)(1)(i) and (d)(1)(ii) of this section.

(iv) In developing each reasonable progress goal, the State must consult with those States which may reasonably be anticipated to cause or contribute to visibility impairment in the mandatory Class I Federal area. In any situation in which the State cannot agree with another such State or group of States that a goal provides for reasonable progress, the State must describe in its submittal the actions taken to resolve the disagreement. In reviewing the State's implementation plan submittal, the Administrator will take this information into account in determining whether the State's goal for visibility improvement provides for reasonable progress towards natural visibility conditions.

(v) The reasonable progress goals established by the State are not directly enforceable but will be considered by the Administrator in evaluating the adequacy of the measures in the implementation plan to achieve the progress goal adopted by the State.

(vi) The State may not adopt a reasonable progress goal that represents less visibility improvement than is expected to result from implementation of other requirements of the CAA during the applicable planning period.

(2) Calculations of baseline and natural visibility conditions. For each mandatory Class I Federal area located within the State, the State must determine the following visibility conditions (expressed in deciviews):

(i) Baseline visibility conditions for the most impaired and least impaired days. The period for establishing baseline visibility conditions is 2000 to 2004. Baseline visibility conditions must be calculated, using available monitoring data, by establishing the average degree of visibility impairment for the most and least impaired days for each calendar year from 2000 to 2004. The baseline visibility conditions are the average of these annual values. For mandatory Class I Federal areas without onsite monitoring data for 2000-2004, the State must establish baseline values using the most representative available monitoring data for 2000-2004, in consultation with the Administrator or his or her designee;

(ii) For an implementation plan that is submitted by 2003, the period for establishing baseline visibility conditions for the period of the first long-term strategy is the most recent 5-year period for which visibility monitoring data are available for the mandatory Class I Federal areas addressed by the plan. For mandatory Class I Federal areas without onsite monitoring data, the State must establish baseline values using the most representative available monitoring data, in consultation with the Administrator or his or her designee;

(iii) Natural visibility conditions for the most impaired and least impaired days. Natural visibility conditions must be calculated by estimating the degree of visibility impairment existing under natural conditions for the most impaired and least impaired days, based on available monitoring information and appropriate data analysis techniques; and

(iv)

(A) For the first implementation plan addressing the requirements of paragraphs (d) and (e) of this section, the number of deciviews by which baseline conditions exceed natural visibility conditions for the most impaired and least impaired days; or

(B) For all future implementation plan revisions, the number of deciviews by which current conditions, as calculated under paragraph (f)(1) of this section, exceed natural visibility conditions for the most impaired and least impaired days.

(3) Long-term strategy for regional haze. Each State listed in 40 CFR 51.300(b)(3) must submit a long-term strategy that addresses regional haze visibility impairment for each mandatory Class I Federal area within the State and for each mandatory Class I Federal area located outside the State which may be affected by emissions from the State. The long-term strategy must include enforceable emissions limitations, compliance schedules, and other measures as necessary to achieve the reasonable progress goals established by States having mandatory Class I Federal areas. In establishing its long-term strategy for regional haze, the State must meet the following requirements:

(i) Where the State has emissions that are reasonably anticipated to contribute to visibility impairment in any mandatory Class I Federal area located in another State or States, the State must consult with the other State(s) in order to develop coordinated emission management strategies. The State must consult with any other State having emissions that are reasonably anticipated to contribute to visibility impairment in any mandatory Class I Federal area within the State.

(ii) Where other States cause or contribute to impairment in a mandatory Class I Federal area, the State must demonstrate that it has included in its implementation plan all measures necessary to obtain its share of the emission reductions needed to meet the progress goal for the area. If the State has participated in a regional planning process, the State must ensure it has included all measures needed to achieve its apportionment of emission reduction obligations agreed upon through that process.

(iii) The State must document the technical basis, including modeling, monitoring and emissions information, on which the State is relying to determine its apportionment of emission reduction obligations necessary for achieving reasonable progress in each mandatory Class I Federal area it affects. The State may meet this requirement by relying on technical analyses developed by the regional planning organization and approved by all State participants. The State must identify the baseline emissions inventory on which its strategies are based. The baseline emissions inventory year is presumed to be the most recent year of the consolidate periodic emissions inventory.

(iv) The State must identify all anthropogenic sources of visibility impairment considered by the State in developing its long-term strategy. The State should consider major and minor stationary sources, mobile sources, and area sources.

(v) The State must consider, at a minimum, the following factors in developing its long-term strategy:

(A) Emission reductions due to ongoing air pollution control programs, including measures to address reasonably attributable visibility impairment;

(B) Measures to mitigate the impacts of construction activities;

(C) Emissions limitations and schedules for compliance to achieve the reasonable progress goal;

(D) Source retirement and replacement schedules;

(E) Smoke management techniques for agricultural and forestry management purposes including plans as currently exist within the State for these purposes;

(F) Enforceability of emissions limitations and control measures; and

(G) The anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the period addressed by the long-term strategy.

(4) Monitoring strategy and other implementation plan requirements. The State must submit with the implementation plan a monitoring strategy for measuring, characterizing, and reporting of regional haze visibility impairment that is representative of all mandatory Class I Federal areas within the State. This monitoring strategy must be coordinated with the monitoring strategy required in 40 CFR 51.305 for reasonably attributable visibility impairment.

Compliance with this requirement may be met through participation in the Interagency Monitoring of Protected Visual Environments network. The implementation plan must also provide for the following:

(i) The establishment of any additional monitoring sites or equipment needed to assess whether reasonable progress goals to address regional haze for all mandatory Class I Federal areas within the State are being achieved.

(ii) Procedures by which monitoring data and other information are used in determining the contribution of emissions from within the State to regional haze visibility impairment at mandatory Class I Federal areas both within and outside the State.

(iii) For a State with no mandatory Class I Federal areas, procedures by which monitoring data and other information are used in determining the contribution of emissions from within the State to regional haze visibility impairment at mandatory Class I Federal areas in other States.

(iv) The implementation plan must provide for the reporting of all visibility monitoring data to the Administrator at least annually for each mandatory Class I Federal area in the State. To the extent possible, the State should report visibility monitoring data electronically.

(v) A statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any mandatory Class I Federal area. The inventory must include emissions for a baseline year, emissions for the most recent year for which data are available, and estimates of future projected emissions. The State must also include a commitment to update the inventory periodically.

(vi) Other elements, including reporting, recordkeeping, and other measures, necessary to assess and report on visibility.

(e) Best Available Retrofit Technology (BART) requirements for regional haze visibility impairment. The State must submit an implementation plan containing emission limitations representing BART and schedules for compliance with BART for each BART-eligible source that may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I Federal area, unless the State demonstrates that an emissions trading program or other alternative will achieve greater reasonable progress toward natural visibility conditions.

(1) To address the requirements for BART, the State must submit an implementation plan containing the following plan elements and include documentation for all required analyses:

(i) A list of all BART-eligible sources within the State.

(ii) A determination of BART for each BART-eligible source in the State that emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I Federal area. All such sources are subject to BART.

(A) The determination of BART must be based on an analysis of the best system of continuous emission control technology available and associated emission reductions achievable for each BART-eligible source that is subject to BART within the State. In this analysis, the State must take into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.

(B) The determination of BART for fossil-fuel fired power plants having a total generating capacity greater than 750 megawatts must be made pursuant to the guidelines in Appendix Y of this part (Guidelines for BART Determinations Under the Regional Haze Rule).

(C) Exception. A State is not required to make a determination of BART for SO_2 or for NO_X if a BART-eligible source has the potential to emit less than 40 tons per year of such pollutant(s), or for PM_{10} if a BART-eligible source has the potential to emit less than 15 tons per year of such pollutant.

(iii) If the State determines in establishing BART that technological or economic limitations on the applicability of measurement methodology to a particular source would make the imposition of an emission standard infeasible, it may instead prescribe a design, equipment, work practice, or other operational standard, or combination thereof, to require the application of BART. Such standard, to the degree possible, is to set forth the emission reduction to be achieved by implementation of such design, equipment, work practice or operation, and must provide for compliance by means which achieve equivalent results.

(iv) A requirement that each source subject to BART be required to install and operate BART as expeditiously as practicable, but in no event later than 5 years after approval of the implementation plan revision.

(v) A requirement that each source subject to BART maintain the control equipment required by this subpart and establish procedures to ensure such equipment is properly operated and maintained.

(2) A State may opt to implement or require participation in an emissions trading program or other alternative measure rather than to require sources subject to BART to install, operate, and maintain BART. Such an emissions trading program or other alternative measure must achieve greater reasonable progress than would be achieved through the installation and operation of BART. For all such emission trading programs or other alternative measures, the State must submit an implementation plan containing the following plan elements and include documentation for all required analyses:

(i) A demonstration that the emissions trading program or other alternative measure will achieve greater reasonable progress than would have resulted from the installation and operation of BART at all sources subject to BART in the State and covered by the alternative program. This demonstration must be based on the following:

(A) A list of all BART-eligible sources within the State.

(B) A list of all BART-eligible sources and all BART source categories covered by the alternative program. The State is not required to include every BART source category or every BART-eligible source within a BART source category in an alternative program, but each BART-eligible source in the State must be subject to the requirements of the alternative program, have a federally enforceable emission limitation determined by the State and approved by EPA as meeting BART in accordance with section 302(c) or paragraph (e)(1) of this section, or otherwise addressed under paragraphs (e)(1) or (e)(4)of this section.

(C) An analysis of the best system of continuous emission control technology available and associated emission reductions achievable for each source within the State subject to BART and covered by the alternative program. This analysis must be conducted by making a determination of BART for each source subject to BART and covered by the alternative program as provided for in paragraph (e)(1) of this section, unless the emissions trading program or other alternative measure has been designed to meet a requirement other than BART (such as the core requirement to have a long-term strategy to achieve the reasonable progress goals established by States). In this case, the State may determine the best system of continuous emission control technology and associated emission reductions for similar types of sources within a source category based on both source-specific and category-wide information, as appropriate.

(D) An analysis of the projected emissions reductions achievable through the trading program or other alternative measure.

(E) A determination under paragraph (e)(3) of this section or otherwise based on the clear weight of evidence that the trading program or other alternative measure achieves greater reasonable progress than would be achieved through the installation and operation of BART at the covered sources.

(ii) [Reserved]

(iii) A requirement that all necessary emission reductions take place during the period of the first long-term strategy for regional haze. To meet this requirement, the State must provide a detailed description of the emissions trading program or other alternative measure, including schedules for implementation, the emission reductions required by the program, all necessary administrative and technical procedures for implementing the program, rules for accounting and monitoring emissions, and procedures for enforcement.

(iv) A demonstration that the emission reductions resulting from the emissions trading program or other alternative measure will be surplus to those reductions resulting from measures adopted to meet requirements of the CAA as of the baseline date of the SIP.

(v) At the State's option, a provision that the emissions trading program or other alternative measure may include a geographic enhancement to the program to address the requirement under 40 CFR 51.302(c) related to BART for reasonably attributable impairment from the pollutants covered under the emissions trading program or other alternative measure.

(vi) For plans that include an emissions trading program that establishes a cap on total annual emissions of SO_2 or NO_X from sources subject to the program, requires the owners and operators of sources to hold allowances or authorizations to emit equal to emissions, and allows the owners and operators of sources and other entities to purchase, sell, and transfer allowances, the following elements are required concerning the emissions covered by the cap:

(A) Applicability provisions defining the sources subject to the program. The State must demonstrate that the applicability provisions (including the size criteria for including sources in the program) are designed to prevent any significant potential shifting within the State of production and emissions from sources in the program to sources outside the program. In the case of a program covering sources in multiple States, the States must

demonstrate that the applicability provisions in each State cover essentially the same size facilities and, if source categories are specified, cover the same source categories and prevent any significant, potential shifting within such States of production and emissions to sources outside the program.

(B) Allowance provisions ensuring that the total value of allowances (in tons) issued each year under the program will not exceed the emissions cap (in tons) on total annual emissions from the sources in the program.

(C) Monitoring provisions providing for consistent and accurate measurements of emissions from sources in the program to ensure that each allowance actually represents the same specified tonnage of emissions and that emissions are measured with similar accuracy at all sources in the program. The monitoring provisions must require that boilers, combustion turbines, and cement kilns in the program allowed to sell or transfer allowances must comply with the requirements of 40 CFR 75 of this chapter. The monitoring provisions must require that other sources in the program allowed to sell or transfer allowances must provide emissions information with the same precision, reliability, accessibility, and timeliness as information provided under 40 CFR 75 of this chapter.

(D) Recordkeeping provisions that ensure the enforceability of the emissions monitoring provisions and other program requirements. The recordkeeping provisions must require that boilers, combustion turbines, and cement kilns in the program allowed to sell or transfer allowances must comply with the recordkeeping provisions of 40 CFR 75 of this chapter. The recordkeeping provisions must require that other sources in the program allowed to sell or transfer allowances must comply with recordkeeping requirements that, as compared with the recordkeeping provisions under part 75 of this chapter, are of comparable stringency and require recording of comparable types of information and retention of the records for comparable periods of time.

(E) Reporting provisions requiring timely reporting of monitoring data with sufficient frequency to ensure the enforceability of the emissions monitoring provisions and other program requirements and the ability to audit the program. The reporting provisions must require that boilers, combustion turbines, and cement kilns in the program allowed to sell or transfer allowances must comply with the reporting provisions of 40 CFR 75 of this chapter, except that, if the Administrator is not the tracking system administrator for the program, emissions may be reported to the tracking system administrator, rather than to the Administrator. The reporting provisions must require that other sources in the program allowed to sell or transfer allowances must comply with reporting requirements that, as compared with the reporting provisions under 40 CFR 75 of this chapter, are of comparable stringency and require reporting of comparable types of information and require comparable timeliness and frequency of reporting.

(F) Tracking system provisions which provide for a tracking system that is publicly available in a secure, centralized database to track in a consistent manner all allowances and emissions in the program.

(G) Authorized account representative provisions ensuring that the owners and operators of a source designate one individual who is authorized to represent the owners and operators in all matters pertaining to the trading program.

(H) Allowance transfer provisions providing procedures that allow timely transfer and recording of allowances, minimize administrative barriers to the operation of the allowance market, and ensure that such procedures apply uniformly to all sources and other potential participants in the allowance market.

(I) Compliance provisions prohibiting a source from emitting a total tonnage of a pollutant that exceeds the tonnage value of its allowance holdings, including the methods and procedures for determining whether emissions exceed allowance holdings. Such method and procedures shall apply consistently from source to source.

(J) Penalty provisions providing for mandatory allowance deductions for excess emissions that apply consistently from source to source. The tonnage value of the allowances deducted shall equal at least three times the tonnage of the excess emissions.

(K) For a trading program that allows banking of allowances, provisions clarifying any restrictions on the use of these banked allowances.

(L) Program assessment provisions providing for periodic program evaluation to assess whether the program is accomplishing its goals and whether modifications to the program are needed to enhance performance of the program.

(3) A State which opts under 40 CFR 51.308(e)(2) to implement an emissions trading program or other alternative measure rather than to require sources subject to BART to install, operate, and maintain BART may satisfy the final step of the demonstration required by that section as follows: If the distribution of emissions is not substantially different than under BART, and the alternative measure results in greater emission reductions, then the alternative measure may be deemed to achieve greater reasonable progress. If the distribution of emissions is significantly different, the State must conduct dispersion modeling

to determine differences in visibility between BART and the trading program for each impacted Class I area, for the worst and best 20 percent of days. The modeling would demonstrate "greater reasonable progress" if both of the following two criteria are met:

(i) Visibility does not decline in any Class I area, and

(ii) There is an overall improvement in visibility, determined by comparing the average differences between BART and the alternative over all affected Class I areas.

(4) A State subject to a trading program established in accordance with 40 CFR 52.38 or 40 CFR 52.39 under a Transport Rule Federal Implementation Plan need not require BART-eligible fossil fuel-fired steam electric plants in the State to install, operate, and maintain BART for the pollutant covered by such trading program in the State. A State that chooses to meet the emission reduction requirements of the Transport Rule by submitting a SIP revision that establishes a trading program and is approved as meeting the requirements of 40 CFR 52.38 or 40 CFR 52.39 also need not require BART-eligible fossil fuel-fired steam electric plants in the State to install, operate, and maintain BART for the pollutant covered by such trading program in the State. A State may adopt provisions, consistent with the requirements applicable to the State for a trading program established in accordance with 40 CFR 52.38 or 40 CFR 52.39 under the Transport Rule Federal Implementation Plan or established under a SIP revision that is approved as meeting the requirements of 40 CFR 52.38 or 40 CFR 52.39, for a geographic enhancement to the program to address the requirement under 40 CFR 51.302(c) related to BART for reasonably attributable impairment from the pollutant covered by such trading program in that State.

(5) After a State has met the requirements for BART or implemented emissions trading program or other alternative measure that achieves more reasonable progress than the installation and operation of BART, BART-eligible sources will be subject to the requirements of paragraph (d) of this section in the same manner as other sources.

(6) Any BART-eligible facility subject to the requirement under paragraph (e) of this section to install, operate, and maintain BART may apply to the Administrator for an exemption from that requirement. An application for an exemption will be subject to the requirements of 40 CFR 51.303(a)(2)-(h).

(f) Requirements for comprehensive periodic revisions of implementation plans for regional haze. Each State identified in 40 CFR 51.300(b)(3) must revise and submit its regional haze implementation plan revision to EPA by July 31, 2018 and every ten years thereafter. In each plan revision, the State must evaluate and reassess all of the elements required in paragraph (d) of this section, taking into account improvements in monitoring data collection and analysis techniques, control technologies, and other relevant factors. In evaluating and reassessing these elements, the State must address the following:

(1) Current visibility conditions for the most impaired and least impaired days, and actual progress made towards natural conditions during the previous implementation period. The period for calculating current visibility conditions is the most recent five year period preceding the required date of the implementation plan submittal for which data are available. Current visibility conditions must be calculated based on the annual average level of visibility impairment for the most and least impaired days for each of these five years. Current visibility conditions are the average of these annual values.

(2) The effectiveness of the long-term strategy for achieving reasonable progress goals over the prior implementation period(s); and

(3) Affirmation of, or revision to, the reasonable progress goal in accordance with the procedures set forth in paragraph (d)(1) of this section. If the State established a reasonable progress goal for the prior period which provided a slower rate of progress than that needed to attain natural conditions by the year 2064, the State must evaluate and determine the reasonableness, based on the factors in paragraph (d)(1)(i)(A) of this section, of additional measures that could be adopted to achieve the degree of visibility improvement projected by the analysis contained in the first implementation plan described in paragraph (d)(1)(i)(B) of this section.

(g) Requirements for periodic reports describing progress towards the reasonable progress goals. Each State identified in 40 CFR 51.300(b)(3) must submit a report to the Administrator every 5 years evaluating progress towards the reasonable progress goal for each mandatory Class I Federal area located within the State and in each mandatory Class I Federal area located outside the State which may be affected by emissions from within the State. The first progress report is due 5 years from submittal of the initial implementation plan addressing paragraphs (d) and (e) of this section. The progress reports must be in the form of implementation plan revisions that comply with the procedural requirements of 40 CFR 51.102 and 40 CFR 51.103. Periodic progress reports must contain at a minimum the following elements:

(1) A description of the status of implementation of all measures included in the implementation plan for achieving reasonable progress goals for mandatory Class I Federal areas both within and outside the State.

(2) A summary of the emissions reductions achieved throughout the State through implementation of the measures described in paragraph (g)(1) of this section.

(3) For each mandatory Class I Federal area within the State, the State must assess the following visibility conditions and changes, with values for most impaired and least impaired days expressed in terms of 5-year averages of these annual values.

(i) The current visibility conditions for the most impaired and least impaired days;

(ii) The difference between current visibility conditions for the most impaired and least impaired days and baseline visibility conditions;

(iii) The change in visibility impairment for the most impaired and least impaired days over the past 5 years;

(4) An analysis tracking the change over the past 5 years in emissions of pollutants contributing to visibility impairment from all sources and activities within the State. Emissions changes should be identified by type of source or activity. The analysis must be based on the most recent updated emissions inventory, with estimates projected forward as necessary and appropriate, to account for emissions changes during the applicable 5-year period.

(5) An assessment of any significant changes in anthropogenic emissions within or outside the State that have occurred over the past 5 years that have limited or impeded progress in reducing pollutant emissions and improving visibility.

(6) An assessment of whether the current implementation plan elements and strategies are sufficient to enable the State, or other States with mandatory Federal Class I areas affected by emissions from the State, to meet all established reasonable progress goals.

(7) A review of the State's visibility monitoring strategy and any modifications to the strategy as necessary.

(h) Determination of the adequacy of existing implementation plan. At the same time the State is required to submit any 5-year progress report to EPA in accordance with paragraph (g) of this section, the State must also take one of the following actions based upon the information presented in the progress report:

(1) If the State determines that the existing implementation plan requires no further substantive revision at this time in order to achieve established goals for visibility improvement and emissions reductions, the State must provide to the Administrator a negative declaration that further revision of the existing implementation plan is not needed at this time.

(2) If the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources in another State(s) which participated in a regional planning process, the State must provide notification to the Administrator and to the other State(s) which participated in the regional planning process with the States. The State must also collaborate with the other State(s) through the regional planning process for the purpose of developing additional strategies to address the plan's deficiencies.

(3) Where the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources in another country, the State shall provide notification, along with available information, to the Administrator.

(4) Where the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources within the State, State, the State shall revise its implementation plan to address the plan's deficiencies within one year.

(i) What are the requirements for State and Federal Land Manager coordination?

(1) By November 29, 1999, the State must identify in writing to the Federal Land Managers the title of the official to which the Federal Land Manager of any mandatory Class I Federal area can submit any recommendations on the implementation of this subpart including, but not limited to:

(i) Identification of impairment of visibility in any mandatory Class I Federal area(s); and

(ii) Identification of elements for inclusion in the visibility monitoring strategy required by 40 CFR 51.305 and this section.

(2) The State must provide the Federal Land Manager with an opportunity for consultation, in person and at least 60 days prior to holding any public hearing on an implementation plan (or plan revision) for regional haze required by this subpart. This consultation must include the opportunity for the affected Federal Land Managers to discuss their:

(i) Assessment of impairment of visibility in any mandatory Class I Federal area; and

(ii) Recommendations on the development of the reasonable progress goal and on the development and implementation of strategies to address visibility impairment.

(3) In developing any implementation plan (or plan revision), the State must include a description of how it addressed any comments provided by the Federal Land Managers.

(4) The plan (or plan revision) must provide procedures for continuing consultation between the State and Federal Land Manager on the implementation of the visibility protection program required by this subpart, including development and review of implementation plan revisions and 5-year progress reports, and on the implementation of other programs having the potential to contribute to impairment of visibility in mandatory Class I Federal areas.

[64 FR 35765, July 1, 1999, as amended at 70 FR 39156, July 6, 2005; 71 FR 60631, Oct. 13, 2006; 77 FR 33656, June 7, 2012]

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40 CFR 51.309 Requirements related to the Grand Canyon Visibility Transport Commission.

(a) What is the purpose of this section? This section establishes the requirements for the first regional haze implementation plan to address regional haze visibility impairment in the 16 Class I areas covered by the Grand Canyon Visibility Transport Commission Report. For the period through 2018, certain States (defined in paragraph (b) of this section as Transport Region States) may choose to implement the Commission's recommendations within the framework of the national regional haze program and applicable requirements of the Act by complying with the provisions of this section. If a Transport Region State submits an implementation plan which is approved by EPA as meeting the requirements of this section, it will be deemed to comply with the requirements for reasonable progress with respect to the 16 Class I areas for the period from approval of the plan through 2018. Any Transport Region State electing not to submit an implementation plan under this section is subject to the requirements of 40 CFR 51.308 in the same manner and to the same extent as any State not included within the Transport Region. Except as provided in paragraph (g) of this section, each Transport Region State is also subject to the requirements of 40 CFR 51.308 with respect to any other Federal mandatory Class I areas within the State or affected by emissions from the State.

(b) Definitions. For the purposes of this section:

(1) *16 Class I areas* means the following mandatory Class I Federal areas on the Colorado Plateau: Grand Canyon National Park, Sycamore Canyon Wilderness, Petrified Forest National Park, Mount Baldy Wilderness, San Pedro Parks Wilderness, Mesa Verde National Park, Weminuche Wilderness, Black Canyon of the Gunnison Wilderness, West Elk Wilderness, Maroon Bells Wilderness, Flat Tops Wilderness, Arches National Park, Canyonlands National Park, Capital Reef National Park, Bryce Canyon National Park, and Zion National Park.

(2) *Transport Region State* means one of the States that is included within the Transport Region addressed by the Grand Canyon Visibility Transport Commission (Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, and Wyoming).

(3) *Commission Report* means the report of the Grand Canyon Visibility Transport Commission entitled “Recommendations for Improving Western Vistas,” dated June 10, 1996.

(4) *Fire* means wildfire, wildland fire (including prescribed natural fire), prescribed fire, and agricultural burning conducted and occurring on Federal, State, and private wildlands and farmlands.

(5) Milestone means the maximum level of annual regional SO_2 emissions, in tons per year, for a given year, assessed annually, through the year 2018, consistent with paragraph (d)(4) of this section.

(6) *Continuous decline in total mobile source emissions* means that the projected level of emissions from mobile sources of each listed pollutant in 2008, 2013, and 2018, are less than the projected level of emissions from mobile sources of each listed pollutant for the previous period (i.e., 2008 less than 2003; 2013 less than 2008; and 2018 less than 2013).

(7) Base year means the year for which data for a source included within the program were used by the WRAP to calculate emissions as a starting point for development of the milestone required by paragraph (d)(4)(i) of this section.

(8) *Base year* means the year, generally a year between 1996 and 1998, for which data for a source included within the program were used by the WRAP to calculate base year emissions as a starting point for development of the Annex required by paragraph (f) of this section.

(9)-(12) [Reserved]

(13) *Eligible renewable energy resource*, for purposes of 40 CFR 51.309, means electricity generated by non-nuclear and non-fossil low or no air emission technologies.

(c) Implementation Plan Schedule. Each Transport Region State electing to submit an implementation plan under this section must submit such a plan no later than December 17, 2007. Indian Tribes may submit implementation plans after this deadline.

(d) Requirements of the first implementation plan for States electing to adopt all of the recommendations of the Commission Report. Except as provided for in paragraph (e) of this section, each Transport Region State must submit an implementation plan that meets the following requirements:

(1) Time period covered. The implementation plan must be effective through December 31, 2018 and continue in effect until an implementation plan revision is approved by EPA in accordance with 40 CFR 51.308(f).

(2) Projection of visibility improvement. For each of the 16 mandatory Class I areas located within the Transport Region State, the plan must include a projection of the improvement in visibility conditions (expressed in deciviews, and in any additional ambient visibility metrics deemed appropriate by the State) expected through the year 2018 for the most impaired and least impaired days, based on the implementation of all measures as required in the Commission report and the provisions in this section. The projection must be made in consultation with other Transport Region States with sources which may be reasonably anticipated to contribute to visibility impairment in the relevant Class I area. The projection may be based on a satisfactory regional analysis.

(3) Treatment of clean-air corridors. The plan must describe and provide for implementation of comprehensive emission tracking strategies for clean-air corridors to ensure that the visibility does not degrade on the least-impaired days at any of the 16 Class I areas. The strategy must include:

(i) An identification of clean-air corridors. The EPA will evaluate the State's identification of such corridors based upon the reports of the Commission's Meteorology Subcommittee and any future updates by a successor organization;

(ii) Within areas that are clean-air corridors, an identification of patterns of growth or specific sites of growth that could cause, or are causing, significant emissions increases that could have, or are having, visibility impairment at one or more of the 16 Class I areas.

(iii) In areas outside of clean-air corridors, an identification of significant emissions growth that could begin, or is beginning, to impair the quality of air in the corridor and thereby lead to visibility degradation for the least-impaired days in one or more of the 16 Class I areas.

(iv) If impairment of air quality in clean air corridors is identified pursuant to paragraphs (d)(3)(ii) and (iii) of this section, an analysis of the effects of increased emissions, including provisions for the identification of the need for additional emission reductions measures, and implementation of the additional measures where necessary.

(v) A determination of whether other clean air corridors exist for any of the 16 Class I areas. For any such clean air corridors, an identification of the necessary measures to protect against future degradation of air quality in any of the 16 Class I areas.

(4) Implementation of stationary source reductions. The first implementation plan submission must include:

(i) Provisions for stationary source emissions of SO_2. The plan submission must include a SO_2 program that contains quantitative emissions milestones for stationary source SO_2 emissions for each year through 2018. After the first two years of the program, compliance with the annual milestones may be measured by comparing a three-year rolling average of actual emissions with a rolling average of the emissions milestones for the same three years. During the first two years of the program, compliance with the milestones may be measured by a methodology of the States' choosing, so long as all States in the program use the same methodology. Compliance with the 2018 milestone shall be measured by comparing actual emissions from the year 2018 with the 2018 milestone. The milestones must provide for steady and continuing emissions reductions through 2018 consistent with the Commission's definition of reasonable progress, its goal of 50 to 70 percent reduction in SO_2 emissions from 1990 actual emission levels by 2040, applicable requirements under the CAA, and the timing of implementation plan assessments of progress and identification of any deficiencies which will be due in the years 2013 and 2018. The milestones must be shown to provide for greater reasonable progress than would be achieved by application of BART pursuant to 40 CFR 51.308(e)(2).

(ii) Documentation of emissions calculation methods for SO_2. The plan submission must include documentation of the specific methodology used to calculate SO_2 emissions during the base year for each emitting unit included in the program. The implementation plan must also provide for documentation of any change to the specific methodology used to calculate emissions at any emitting unit for any year after the base year.

(iii) Monitoring, recordkeeping, and reporting of SO_2 emissions. The plan submission must include provisions requiring the monitoring, recordkeeping, and annual reporting of actual stationary source SO_2 emissions within the State. The monitoring, recordkeeping, and reporting data must be sufficient to determine annually whether the milestone for each year through 2018 is achieved. The plan submission must provide for reporting of these data by the State to the Administrator and to the regional planning organization. The plan must provide for retention of records for at least 10 years from the establishment of the record.

(iv) Criteria and Procedures for a Market Trading Program. The plan must include the criteria and procedures for conducting an annual evaluation of whether the milestone is achieved and, in accordance with paragraph (d)(4)(v) of this section, for activating a market trading program in the event the milestone is not achieved. A draft of the annual report evaluating whether the milestone for each year is achieved shall be completed no later than 12 months from the end of each milestone year. The plan must also provide for assessments of the program in the years 2013 and 2018.

(v) Market Trading Program. The implementation plan must include requirements for a market trading program to be implemented in the event that a milestone is not achieved. The plan shall require that the market trading program be activated beginning no later than 15 months after the end of the first year in which the milestone is not achieved. The plan shall also require that sources comply, as soon as practicable, with the requirement to hold allowances covering their emissions. Such market trading program must be sufficient to achieve the milestones in paragraph (d)(4)(i) of this section, and must be consistent with the elements for such programs outlined in 40 CFR 51.308(e)(2)(vi). Such a program may include a geographic enhancement to the program to address the requirement under 40 CFR 51.302(c) related to BART for reasonably attributable impairment from the pollutants covered under the program.

(vi) Provision for the 2018 milestone.

(A) Unless and until a revised implementation plan is submitted in accordance with 40 CFR 51.308(f) and approved by EPA, the implementation plan shall prohibit emissions from covered stationary sources in any year beginning in 2018 that exceed the year 2018 milestone. In no event shall a market-based program approved under 40 CFR 51.308(f) allow an emissions cap for SO_2 that is less stringent than the 2018 milestone, unless the milestones are replaced by a different program approved by EPA as meeting the BART and reasonable progress requirements established in 40 CFR 51.308.

(B) The implementation plan must provide a framework, including financial penalties for excess emissions based on the 2018 milestone, sufficient to ensure that the 2018 milestone will be met even if the implementation of the market trading program in paragraph (d)(4)(v) of this section has not yet been triggered, or the source allowance compliance provision of the trading program is not yet in effect.

(vii) Provisions for stationary source emissions of NO_X and PM. The implementation plan must contain any necessary long term strategies and BART requirements for stationary source PM and NO_X emissions. Any such BART provisions may be submitted pursuant to either 40 CFR 51.308(e)(1) or '51.308(e)(2).

(5) Mobile sources. The plan submission must provide for:

(i) Statewide inventories of on-road and nonroad mobile source emissions of VOC, NO_X, SO_2, $PM_{2.5}$, elemental carbon, and organic carbon for the years 2003, 2008, 2013, and 2018.

(A) The inventories must demonstrate a continuous decline in total mobile source emissions (on-road plus nonroad; tailpipe and evaporative) of VOC, NO_X, $PM_{2.5}$, elemental carbon, and organic carbon, evaluated separately. If the inventories show a continuous decline in total mobile source emissions of each of these pollutants over the period 2003-2018, no further action is required as part of this plan to address mobile source emissions of these pollutants. If the inventories do not show a continuous decline in mobile source emissions of one or more of these pollutants over the period 2003-2018, the plan submission must provide for an implementation plan revision by no later than December 31, 2008 containing any necessary long-term strategies to achieve a continuous decline in total mobile source emissions of the pollutant(s), to the extent practicable, considering economic and technological reasonableness and federal preemption of vehicle standards and fuel standards under Title II of the CAA.

(B) The plan submission must also provide for an implementation plan revision by no later than December 31, 2008 containing any long-term strategies necessary to reduce emissions of SO_2 from nonroad mobile sources, consistent with the goal of reasonable progress. In assessing the need for such long-term strategies, the State may consider emissions reductions achieved or anticipated from any new Federal standards for sulfur in nonroad diesel fuel.

(ii) Interim reports to EPA and the public in years 2003, 2008, 2013, and 2018 on the implementation status of the regional and local strategies recommended by the Commission Report to address mobile source emissions.

(6) Programs related to fire. The plan must provide for:

(i) Documentation that all Federal, State, and private prescribed fire programs within the State evaluate and address the degree visibility impairment from smoke in their planning and application. In addition the plan must include smoke management programs that include all necessary components including,

but not limited to, actions to minimize emissions, evaluation of smoke dispersion, alternatives to fire, public notification, air quality monitoring, surveillance and enforcement, and program evaluation.

(ii) A statewide inventory and emissions tracking system (spatial and temporal) of VOC, NO_X, elemental and organic carbon, and fine particle emissions from fire. In reporting and tracking emissions from fire from within the State, States may use information from regional data-gathering and tracking initiatives.

(iii) Identification and removal wherever feasible of any administrative barriers to the use of alternatives to burning in Federal, State, and private prescribed fire programs within the State.

(iv) Enhanced smoke management programs for fire that consider visibility effects, not only health and nuisance objectives, and that are based on the criteria of efficiency, economics, law, emission reduction opportunities, land management objectives, and reduction of visibility impact.

(v) Establishment of annual emission goals for fire, excluding wildfire, that will minimize emission increases from fire to the maximum extent feasible and that are established in cooperation with States, tribes, Federal land management agencies, and private entities.

(7) Area sources of dust emissions from paved and unpaved roads. The plan must include an assessment of the impact of dust emissions from paved and unpaved roads on visibility conditions in the 16 Class I Areas. If such dust emissions are determined to be a significant contributor to visibility impairment in the 16 Class I areas, the State must implement emissions management strategies to address the impact as necessary and appropriate.

(8) Pollution prevention. The plan must provide for:

(i) An initial summary of all pollution prevention programs currently in place, an inventory of all renewable energy generation capacity and production in use, or planned as of the year 2002 (expressed in megawatts and megawatt-hours), the total energy generation capacity and production for the State, the percent of the total that is renewable energy, and the State's anticipated contribution toward the renewable energy goals for 2005 and 2015, as provided in paragraph (d)(8)(vi) of this section.

(ii) Programs to provide incentives that reward efforts that go beyond compliance and/or achieve early compliance with air-pollution related requirements.

(iii) Programs to preserve and expand energy conservation efforts.

(iv) The identification of specific areas where renewable energy has the potential to supply power where it is now lacking and where renewable energy is most cost-effective.

(v) Projections of the short- and long-term emissions reductions, visibility improvements, cost savings, and secondary benefits associated with the renewable energy goals, energy efficiency and pollution prevention activities.

(vi) A description of the programs relied on to achieve the State's contribution toward the Commission's goal that renewable energy will comprise 10 percent of the regional power needs by 2005 and 20 percent by 2015, and a demonstration of the progress toward achievement of the renewable energy goals in the years 2003, 2008, 2013, and 2018. This description must include documentation of the potential for renewable energy resources, the percentage of renewable energy associated with new power generation projects implemented or planned, and the renewable energy generation capacity and production in use and planned in the State. To the extent that it is not feasible for a State to meet its contribution to the regional renewable energy goals, the State must identify in the progress reports the measures implemented to achieve its contribution and explain why meeting the State's contribution was not feasible.

(9) Implementation of additional recommendations. The plan must provide for implementation of all other recommendations in the Commission report that can be practicably included as enforceable emission limits, schedules of compliance, or other enforceable measures (including economic incentives) to make reasonable progress toward remedying existing and preventing future regional haze in the 16 Class I areas. The State must provide a report to EPA and the public in 2003, 2008, 2013, and 2018 on the progress toward developing and implementing policy or strategy options recommended in the Commission Report.

(10) Periodic implementation plan revisions. Each Transport Region State must submit to the Administrator periodic reports in the years 2013 and 2018. The progress reports must be in the form of implementation plan revisions that comply with the procedural requirements of 40 CFR 40 CFR 51.102 and 51.103.

(i) The report will assess the area for reasonable progress as provided in this section for mandatory Class I Federal area(s) located within the State and for mandatory Class I Federal area(s) located outside the State which may be affected by emissions from within the State. This demonstration may be based on assessments conducted by the States and/or a regional planning body. The progress reports must contain at a minimum the following elements:

(A) A description of the status of implementation of all measures included in the implementation plan for achieving reasonable progress goals for mandatory Class I Federal areas both within and outside the State.

(B) A summary of the emissions reductions achieved throughout the State through implementation of the measures described in paragraph (d)(10)(i)(A) of this section.

(C) For each mandatory Class I Federal area within the State, an assessment of the following: the current visibility conditions for the most impaired and least impaired days; the difference between current visibility conditions for the most impaired and least impaired days and baseline visibility conditions; the change in visibility impairment for the most impaired and least impaired days over the past 5 years.

(D) An analysis tracking the change over the past 5 years in emissions of pollutants contributing to visibility impairment from all sources and activities within the State. Emissions changes should be identified by type of source or activity. The analysis must be based on the most recent updated emissions inventory, with estimates projected forward as necessary and appropriate, to account for emissions changes during the applicable 5-year period.

(E) An assessment of any significant changes in anthropogenic emissions within or outside the State that have occurred over the past 5 years that have limited or impeded progress in reducing pollutant emissions and improving visibility.

(F) An assessment of whether the current implementation plan elements and strategies are sufficient to enable the State, or other States with mandatory Federal Class I areas affected by emissions from the State, to meet all established reasonable progress goals.

(G) A review of the State's visibility monitoring strategy and any modifications to the strategy as necessary.

(ii) At the same time the State is required to submit any 5-year progress report to EPA in accordance with paragraph (d)(10)(i) of this section, the State must also take one of the following actions based upon the information presented in the progress report:

(A) If the State determines that the existing implementation plan requires no further substantive revision at this time in order to achieve established goals for visibility improvement and emissions reductions, the State must provide to the Administrator a negative declaration that further revision of the existing implementation plan is not needed at this time.

(B) If the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources in another State(s) which participated in a regional planning process, the State must provide notification to the Administrator and to the other State(s) which participated in the regional planning process with the States. The State must also collaborate with the other State(s) through the regional planning process for the purpose of developing additional strategies to address the plan's deficiencies.

(C) Where the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources in another country, the State shall provide notification, along with available information, to the Administrator.

(D) Where the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from within the State, the State shall develop additional strategies to address the plan deficiencies and revise the implementation plan no later than one year from the date that the progress report was due.

(11) State planning and interstate coordination. In complying with the requirements of this section, States may include emission reductions strategies that are based on coordinated implementation with other States. Examples of these strategies include economic incentive programs and trans-boundary emissions trading programs. The implementation plan must include documentation of the technical and policy basis for the individual State apportionment (or the procedures for apportionment throughout the trans-boundary region), the contribution addressed by the State's plan, how it coordinates with other State plans, and compliance with any other appropriate implementation plan approvability criteria. States may rely on the relevant technical, policy and other analyses developed by a regional entity (such as the Western Regional Air Partnership) in providing such documentation. Conversely, States may elect to develop their own programs without relying on work products from a regional entity.

(12) Tribal implementation. Consistent with 40 CFR 49, tribes within the Transport Region may implement the required visibility programs for the 16 Class I areas, in the same manner as States, regardless of whether such tribes have participated as members of a visibility transport commission.

(e) States electing not to implement the commission recommendations. Any Transport Region State may elect not to implement the Commission recommendations set forth in paragraph (d) of this section. Such States are required to comply with the timelines and requirements of 40 CFR 51.308. Any Transport Region State electing not to implement the Commission recommendations must advise the other States in the Transport Region of the nature of the program and the effect of the program on visibility-impairing emissions, so that other States can take this information into account in developing programs under this section.

(f) [Reserved]

(g) Additional Class I areas. Each Transport Region State implementing the provisions of this section as the basis for demonstrating reasonable progress for mandatory Class I Federal areas other than the 16 Class I areas must include the following provisions in its implementation plan. If a Transport Region State submits an implementation plan which is approved by EPA as meeting the requirements of this section, it will be deemed to comply with the requirements for reasonable progress for the period from approval of the plan to 2018.

(1) A demonstration of expected visibility conditions for the most impaired and least impaired days at the additional mandatory Class I Federal area(s) based on emissions projections from the long-term strategies in the implementation plan. This demonstration may be based on assessments conducted by the States and/or a regional planning body.

(2) Provisions establishing reasonable progress goals and implementing any additional measures necessary to demonstrate reasonable progress for the additional mandatory Federal Class I areas. These provisions must comply with the provisions of 40 CFR 51.308(d)(1) through (4).

(i) In developing long-term strategies pursuant to 40 CFR 51.308(d)(3), the State may build upon the strategies implemented under paragraph (d) of this section, and take full credit for the visibility improvement achieved through these strategies.

(ii) The requirement under 40 CFR 51.308(e) related to Best Available Retrofit Technology for regional haze is deemed to be satisfied for pollutants addressed by the milestones and backstop trading program if, in establishing the emission reductions milestones under paragraph (d)(4) of this section, it is shown that greater reasonable progress will be achieved for these additional Class I areas than would be achieved through the application of source-specific BART emission limitations under 40 CFR 51.308(e)(1).

(iii) The Transport Region State may consider whether any strategies necessary to achieve the reasonable progress goals required by paragraph (g)(2) of this section are incompatible with the strategies implemented under paragraph (d) of this section to the extent the State adequately demonstrates that the incompatibility is related to the costs of the compliance, the time necessary for compliance, the energy and no air quality environmental impacts of compliance, or the remaining useful life of any existing source subject to such requirements.

[64 FR 35769, July 1, 1999, as amended at 68 FR 33784, June 5, 2003; 68 FR 39846, July 3, 2003; 68 FR 61369, Oct. 28, 2003; 68 FR 71014, Dec. 22, 2003; 71 FR 60632, Oct. 13, 2006]

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Federal Regulations Adopted by Reference

In accordance with Rule 62-204.800, F.A.C., the following federal regulation in Title 40 of the Code of Federal Regulations (CFR) was adopted by reference. The original federal rule numbering has been retained.

Federal Revision Date: January 28, 2009

State Rule Effective Date: November 18, 2009

Standardized Conditions Revision Date: February 5, 2010

Subpart A-General Provisions

§ 60.1 Applicability.

(a) Except as provided in subparts B and C, the provisions of this part apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(b) Any new or revised standard of performance promulgated pursuant to section 111(b) of the Act shall apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of such new or revised standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(c) In addition to complying with the provisions of this part, the owner or operator of an affected facility may be required to obtain an operating permit issued to stationary sources by an authorized State air pollution control agency or by the Administrator of the U.S. Environmental Protection Agency (EPA) pursuant to Title V of the Clean Air Act (Act) as amended November 15, 1990 (42 U.S.C. 7661). For more information about obtaining an operating permit see part 70 of this chapter.

(d) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia. {Not Applicable}*

[40 FR 53346, Nov. 17, 1975, as amended at 55 FR 51382, Dec. 13, 1990; 59 FR 12427, Mar. 16, 1994; 62 FR 52641, Oct. 8, 1997]

§ 60.2 Definitions.

The terms used in this part are defined in the Act or in this section as follows:

Act means the Clean Air Act (42 U.S.C. 7401 *et seq.*)

Administrator means the Administrator of the Environmental Protection Agency or his authorized representative.

Affected facility means, with reference to a stationary source, any apparatus to which a standard is applicable.

Alternative method means any method of sampling and analyzing for an air pollutant which is not a reference or equivalent method but which has been demonstrated to the Administrator's satisfaction to, in specific cases, produce results adequate for his determination of compliance.

Approved permit program means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter or a Federal permit program established in this chapter pursuant to Title V of the Act (42 U.S.C. 7661).

Capital expenditure means an expenditure for a physical or operational change to an existing facility which exceeds the product of the applicable “annual asset guideline repair allowance percentage” specified in the latest edition of Internal Revenue Service (IRS) Publication 534 and the existing facility's basis, as defined by section 1012 of the Internal Revenue Code. However, the total expenditure for a physical or operational change to an existing facility must not be reduced by any “excluded additions” as defined in IRS Publication 534, as would be done for tax purposes.

Clean coal technology demonstration project means a project using funds appropriated under the heading ‘Department of Energy-Clean Coal Technology’, up to a total amount of $2,500,000,000 for commercial demonstrations of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency.

Commenced means, with respect to the definition of *new source* in section 111(a)(2) of the Act, that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Construction means fabrication, erection, or installation of an affected facility.

Continuous monitoring system means the total equipment, required under the emission monitoring sections in applicable subparts, used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.

Electric utility steam generating unit means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

Equivalent method means any method of sampling and analyzing for an air pollutant which has been demonstrated to the Administrator's satisfaction to have a consistent and quantitatively known relationship to the reference method, under specified conditions.

Excess Emissions and Monitoring Systems Performance Report is a report that must be submitted periodically by a source in order to provide data on its compliance with stated emission limits and operating parameters, and on the performance of its monitoring systems.

Existing facility means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this part, and the construction or modification of which was commenced before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type.

Force majeure means, for purposes of §60.8, 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 the owner or operator from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the affected facility's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility.

Isokinetic sampling means sampling in which the linear velocity of the gas entering the sampling nozzle is equal to that of the undisturbed gas stream at the sample point.

Issuance of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a Title V permit occurs immediately after the EPA takes final action on the final permit.

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. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Modification means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.

Monitoring device means the total equipment, required under the monitoring of operations sections in applicable subparts, used to measure and record (if applicable) process parameters.

Nitrogen oxides means all oxides of nitrogen except nitrous oxide, as measured by test methods set forth in this part.

One-hour period means any 60-minute period commencing on the hour.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Owner or operator means any person who owns, leases, operates, controls, or supervises an affected facility or a stationary source of which an affected facility is a part.

Part 70 permit means any permit issued, renewed, or revised pursuant to part 70 of this chapter.

Particulate matter means any finely divided solid or liquid material, other than uncombined water, as measured by the reference methods specified under each applicable subpart, or an equivalent or alternative method.

Permit program means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

Permitting authority means:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

Proportional sampling means sampling at a rate that produces a constant ratio of sampling rate to stack gas flow rate.

Reactivation of a very clean coal-fired electric utility steam generating unit means any physical change or change in the method of operation associated with the commencement of commercial operations by a coal-fired utility unit after a period of discontinued operation where the unit:

(1) Has not been in operation for the two-year period prior to the enactment of the Clean Air Act Amendments of 1990, and the emissions from such unit continue to be carried in the permitting authority's emissions inventory at the time of enactment;

(2) Was equipped prior to shut-down with a continuous system of emissions control that achieves a removal efficiency for sulfur dioxide of no less than 85 percent and a removal efficiency for particulates of no less than 98 percent;

(3) Is equipped with low-NO_X burners prior to the time of commencement of operations following reactivation; and

(4) Is otherwise in compliance with the requirements of the Clean Air Act.

Reference method means any method of sampling and analyzing for an air pollutant as specified in the applicable subpart.

Repowering means replacement of an existing coal-fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion, integrated gasification combined cycle, magnetohydrodynamics, direct and indirect coal-fired turbines, integrated gasification fuel cells, or as determined by the Administrator, in consultation with the Secretary of Energy, a derivative of one or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of November 15, 1990. Repowering shall also include any oil and/or gas-fired unit which has been awarded clean coal technology demonstration funding as of January 1, 1991, by the Department of Energy.

Run means the net period of time during which an emission sample is collected. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.

Shutdown means the cessation of operation of an affected facility for any purpose.

Six-minute period means any one of the 10 equal parts of a one-hour period.

Standard means a standard of performance proposed or promulgated under this part.

Standard conditions means a temperature of 293 K (68F) and a pressure of 101.3 kilopascals (29.92 in Hg).

Startup means the setting in operation of an affected facility for any purpose.

State means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement: (1) The provisions of this part; and/or (2) the permit program established under part 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant.

Title V permit means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act (42 U.S.C. 7661). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

Volatile Organic Compound means any organic compound which participates in atmospheric photochemical reactions; or which is measured by a reference method, an equivalent method, an alternative method, or which is determined by procedures specified under any subpart.

[44 FR 55173, Sept. 25, 1979, as amended at 45 FR 5617, Jan. 23, 1980; 45 FR 85415, Dec. 24, 1980; 54 FR 6662, Feb. 14, 1989; 55 FR 51382, Dec. 13, 1990; 57 FR 32338, July 21, 1992; 59 FR 12427, Mar. 16, 1994; 72 FR 27442, May 16, 2007]

§ 60.3 Units and abbreviations.

Used in this part are abbreviations and symbols of units of measure. These are defined as follows:

(a) System International (SI) units of measure:
A—ampere

g—gram
Hz—hertz
J—joule
K—degree Kelvin
kg—kilogram
m—meter
m^3 —cubic meter
mg—milligram—10^{-3}gram
mm—millimeter—10^{-3}meter
Mg—megagram—10^6 gram
mol—mole
N—newton
ng—nanogram—10^{-9}gram
nm—nanometer—10^{-9}meter
Pa—pascal
s—second
V—volt
W—watt
Ω—ohm
µg—microgram—10^{-6}gram

(b) Other units of measure:
Btu—British thermal unit
°C—degree Celsius (centigrade)
cal—calorie
cfm—cubic feet per minute
cu ft—cubic feet
dcf—dry cubic feet
dcm—dry cubic meter
dscf—dry cubic feet at standard conditions
dscm—dry cubic meter at standard conditions
eq—equivalent
°F—degree Fahrenheit
ft—feet
gal—gallon
gr—grain
g-eq—gram equivalent
hr—hour
in—inch
k—1,000
l—liter
lpm—liter per minute
lb—pound
meq—milliequivalent
min—minute
ml—milliliter
mol. wt.—molecular weight
ppb—parts per billion
ppm—parts per million
psia—pounds per square inch absolute
psig—pounds per square inch gage
°R—degree Rankine
scf—cubic feet at standard conditions
scfh—cubic feet per hour at standard conditions
scm—cubic meter at standard conditions
sec—second
sq ft—square feet
std—at standard conditions

(c) Chemical nomenclature:
CdS—cadmium sulfide
CO—carbon monoxide
CO_2—carbon dioxide
HCl—hydrochloric acid
Hg—mercury
H_2O—water
H_2S—hydrogen sulfide
H_2SO_4—sulfuric acid
N_2—nitrogen
NO—nitric oxide
NO_2—nitrogen dioxide
NO_X—nitrogen oxides
O_2—oxygen
SO_2—sulfur dioxide
SO_3—sulfur trioxide
SO_X—sulfur oxides

(d) Miscellaneous:
A.S.T.M.—American Society for Testing and Materials

[42 FR 37000, July 19, 1977; 42 FR 38178, July 27, 1977]

§ 60.4 Address.

All addresses that pertain to Florida have been incorporated. To see the complete list of addresses please go to http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div6&view=text&node=40:6.0.1.1.1.1&idno=40.

Link to an amendment published at 73 FR 18164, Apr. 3, 2008.

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted in duplicate to the appropriate Regional Office of the U.S. Environmental Protection Agency to the attention of the Director of the Division indicated in the following list of EPA Regional Offices.

Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee), Director, Air and Waste Management Division, U.S. Environmental Protection Agency, 345 Courtland Street, NE., Atlanta, GA 30365.

(b) Section 111(c) directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards of performance for new stationary sources located in such State. All information required to be submitted to EPA under paragraph (a) of this section, must also be submitted to the appropriate State Agency of any State to which this authority has been delegated (provided, that each specific delegation may except sources from a certain Federal or State reporting requirement). The appropriate mailing address for those States whose delegation request has been approved is as follows:

(K) Bureau of Air Quality Management, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, FL 32301.

[40 FR 18169, Apr. 25, 1975]

Editorial Note: For Federal Register citations affecting §60.4 see the List of CFR Sections Affected which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 60.5 Determination of construction or modification.

(a) When requested to do so by an owner or operator, the Administrator will make a determination of whether action taken or intended to be taken by such owner or operator constitutes construction (including reconstruction) or modification or the commencement thereof within the meaning of this part.

(b) The Administrator will respond to any request for a determination under paragraph (a) of this section within 30 days of receipt of such request.

[40 FR 58418, Dec. 16, 1975]

§ 60.6 Review of plans.

(a) When requested to do so by an owner or operator, the Administrator will review plans for construction or modification for the purpose of providing technical advice to the owner or operator.

(b)

(1) A separate request shall be submitted for each construction or modification project.

(2) Each request shall identify the location of such project, and be accompanied by technical information describing the proposed nature, size, design, and method of operation of each affected facility involved in such project, including information on any equipment to be used for measurement or control of emissions.

(c) Neither a request for plans review nor advice furnished by the Administrator in response to such request shall (1) relieve an owner or operator of legal responsibility for compliance with any provision of this part or of any applicable State or local requirement, or (2) prevent the Administrator from implementing or enforcing any provision of this part or taking any other action authorized by the Act.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 9314, Mar. 8, 1974]

§ 60.7 Notification and record keeping.

(a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification or, if acceptable to both the Administrator and the owner or operator of a source, electronic notification, as follows:

(1) A notification of the date construction (or reconstruction as defined under §60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.

(2) [Reserved]

(3) A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in §60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

(5) A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with §60.13(c). Notification shall be postmarked not less than 30 days prior to such date.

(6) A notification of the anticipated date for conducting the opacity observations required by §60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.

(7) A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by §60.8 in lieu of Method 9 observation data as allowed by §60.11(e)(5) of this part. This notification shall be postmarked not less than 30 days prior to the date of the performance test.

(b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

(c) Each owner or operator required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and-or summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information:

(1) The magnitude of excess emissions computed in accordance with §60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(d) The summary report form shall contain the information and be in the format shown in figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in §60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in §60.7(c) shall both be submitted.

Figure 1—Summary Report—Gaseous and Opacity Excess Emission and Monitoring System Performance
Pollutant (Circle One—SO_2/NO_X/TRS/H_2S/CO/Opacity)
Reporting period dates: From _____ to _____
Company:
Emission Limitation_____
Address:
Monitor Manufacturer and Model No._____
Date of Latest CMS Certification or Audit_____
Process Unit(s) Description:
Total source operating time in reporting period[1] _____

Emission data summary[1]		**CMS performance summary[1]**	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Startup/shutdown		a. Monitor equipment malfunctions	
b. Control equipment problems		b. Non-Monitor equipment malfunctions	
c. Process problems		c. Quality assurance calibration	
d. Other known causes		d. Other known causes	
e. Unknown causes		e. Unknown causes	
2. Total duration of excess emission		2. Total CMS Downtime	
3. Total duration of excess emissions × (100) [Total source operating time]	%[2]	3. [Total CMS Downtime] × (100) [Total source operating time]	%[2]

[1]For opacity, record all times in minutes. For gases, record all times in hours.
[2]For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

On a separate page, describe any changes since last quarter in CMS, process or controls. I certify that the information contained in this report is true, accurate, and complete.

_____ _____
Name Signature

_____ _____
Title Date

(e)

(1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;

(ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the applicable standard; and

(iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (e)(2) of this section.

(f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows:

(1) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(2) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(3) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (f) of this section, if the Administrator or the delegated

authority determines these records are required to more accurately assess the compliance status of the affected source.

(g) If notification substantially similar to that in paragraph (a) of this section is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of paragraph (a) of this section.

(h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.

[36 FR 24877, Dec. 28, 1971, as amended at 40 FR 46254, Oct. 6, 1975; 40 FR 58418, Dec. 16, 1975; 45 FR 5617, Jan. 23, 1980; 48 FR 48335, Oct. 18, 1983; 50 FR 53113, Dec. 27, 1985; 52 FR 9781, Mar. 26, 1987; 55 FR 51382, Dec. 13, 1990; 59 FR 12428, Mar. 16, 1994; 59 FR 47265, Sep. 15, 1994; 64 FR 7463, Feb. 12, 1999]

§ 60.8 Performance tests.

(a) Except as specified in paragraphs (a)(1),(a)(2), (a)(3), and (a)(4) of this section, within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, or at such other times specified by this part, and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

(1) If a force majeure is about to occur, occurs, or has occurred for which the affected owner or operator intends to assert a claim of force majeure, the owner or operator shall notify the Administrator, in writing as soon as practicable following the date the owner or operator first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline, but the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall occur as soon as practicable.

(2) The owner or operator shall provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in testing beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which the owner or operator proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure occurs.

(3) The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Administrator. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an extension as soon as practicable.

(4) Until an extension of the performance test deadline has been approved by the Administrator under paragraphs (a)(1), (2), and (3) of this section, the owner or operator of the affected facility remains strictly subject to the requirements of this part.

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

(d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the

Administrator (or delegated State or local agency) as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator (or delegated State or local agency) by mutual agreement.

(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

(2) Safe sampling platform(s).

(3) Safe access to sampling platform(s).

(4) Utilities for sampling and testing equipment.

(f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 9314, Mar. 8, 1974; 42 FR 57126, Nov. 1, 1977; 44 FR 33612, June 11, 1979; 54 FR 6662, Feb. 14, 1989; 54 FR 21344, May 17, 1989; 64 FR 7463, Feb. 12, 1999; 72 FR 27442, May 16, 2007]

§ 60.9 Availability of information.

The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter. (Information submitted voluntarily to the Administrator for the purposes of §§60.5 and 60.6 is governed by §§2.201 through 2.213 of this chapter and not by §2.301 of this chapter.)

§ 60.10 State authority.

The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from:

(a) Adopting and enforcing any emission standard or limitation applicable to an affected facility, provided that such emission standard or limitation is not less stringent than the standard applicable to such facility.

(b) Requiring the owner or operator of an affected facility to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such facility.

§ 60.11 Compliance with standards and maintenance requirements.

(a) Compliance with standards in this part, other than opacity standards, shall be determined in accordance with performance tests established by §60.8, unless otherwise specified in the applicable standard.

(b) Compliance with opacity standards in this part shall be determined by conducting observations in accordance with Method 9 in appendix A of this part, any alternative method that is approved by the Administrator, or as provided in paragraph (e)(5) of this section. For purposes of determining initial compliance, the minimum total time of observations shall be 3 hours (30 6-minute averages) for the performance test or other set of observations (meaning those fugitive-type emission sources subject only to an opacity standard).

(c) The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating 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, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(e)

(1) For the purpose of demonstrating initial compliance, opacity observations shall be conducted concurrently with the initial performance test required in §60.8 unless one of the following conditions apply. If no performance test under §60.8 is required, then opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated but no later than 180 days after initial startup of the facility. If visibility or other conditions prevent the opacity observations from being conducted concurrently with the initial performance test required under §60.8, the source owner or operator shall reschedule the opacity observations as soon after the initial performance test as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. In these cases, the 30-day prior notification to the Administrator required in §60.7(a)(6) shall be waived. The rescheduled opacity observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under §60.8. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity observations from being made concurrently with the initial performance test in accordance with procedures contained in Method 9 of appendix B of this part. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The owner or operator of an affected facility shall make available, upon request by the Administrator, such records as may be necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification. Except as provided in paragraph (e)(5) of this section, the results of continuous monitoring by transmissometer which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the source shall meet the burden of proving that the instrument used meets (at the time of the alleged violation) Performance Specification 1 in appendix B of this part, has been properly maintained and (at the time of the alleged violation) that the resulting data have not been altered in any way.

(2) Except as provided in paragraph (e)(3) of this section, the owner or operator of an affected facility to which an opacity standard in this part applies shall conduct opacity observations in accordance with paragraph (b) of this section, shall record the opacity of emissions, and shall report to the Administrator the opacity results along with the results of the initial performance test required under §60.8. The inability of an owner or operator to secure a visible emissions observer shall not be considered a reason for not conducting the opacity observations concurrent with the initial performance test.

(3) The owner or operator of an affected facility to which an opacity standard in this part applies may request the Administrator to determine and to record the opacity of emissions from the affected facility during the initial performance test and at such times as may be required. The owner or operator of the affected facility shall report the opacity results. Any request to the Administrator to determine and to record the opacity of emissions from an affected facility shall be included in the notification required in §60.7(a)(6). If, for some reason, the Administrator cannot determine and record the opacity of emissions from the affected facility during the performance test, then the provisions of paragraph (e)(1) of this section shall apply.

(4) An owner or operator of an affected facility using a continuous opacity monitor (transmissometer) shall record the monitoring data produced during the initial performance test required by §60.8 and shall furnish the Administrator a written report of the monitoring results along with Method 9 and §60.8 performance test results.

(5) An owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under §60.8 in lieu of Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under §60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under §60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under §60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under §60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in §60.13(c) of this part, that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates noncompliance, the Method 9 data will be used to determine compliance with the opacity standard.

(6) Upon receipt from an owner or operator of the written reports of the results of the performance tests required by §60.8, the opacity observation results and observer certification required by §60.11(e)(1), and the COMS results, if applicable, the Administrator will make a finding concerning compliance with opacity and other applicable standards. If COMS data results are used to comply with an opacity standard, only those results are required to be submitted along with the performance test results required by §60.8. If the Administrator finds that an affected facility is in compliance with all applicable standards for which performance tests are conducted in accordance with §60.8 of this part but during the time such performance tests are being conducted fails to meet any applicable opacity standard, he shall notify the owner or operator and advise him that he may petition the Administrator within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility.

(7) The Administrator will grant such a petition upon a demonstration by the owner or operator that the affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under the conditions established by the Administrator; and that the affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard.

(8) The Administrator will establish an opacity standard for the affected facility meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity standard in the Federal Register.

(f) Special provisions set forth under an applicable subpart shall supersede any conflicting provisions in paragraphs (a) through (e) of this section.

(g) For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[38 FR 28565, Oct. 15, 1973, as amended at 39 FR 39873, Nov. 12, 1974; 43 FR 8800, Mar. 3, 1978; 45 FR 23379, Apr. 4, 1980; 48 FR 48335, Oct. 18, 1983; 50 FR 53113, Dec. 27, 1985; 51 FR 1790, Jan. 15, 1986; 52 FR 9781, Mar. 26, 1987; 62 FR 8328, Feb. 24, 1997; 65 FR 61749, Oct. 17, 2000]

§ 60.12 Circumvention.

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[39 FR 9314, Mar. 8, 1974]

§ 60.13 Monitoring requirements.

(a) For the purposes of this section, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring systems under appendix B to this part and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, appendix F to this part, unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.

(b) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests under §60.8. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.

(c) If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under §60.11(e)(5), he shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, appendix B, of this part before the performance test required under §60.8 is conducted. Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the COMS or continuous emission monitoring system (CEMS) during any performance test required under §60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of this part, The owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Administrator under section 114 of the Act.

(1) The owner or operator of an affected facility using a COMS to determine opacity compliance during any performance test required under §60.8 and as described in §60.11(e)(5) shall furnish the Administrator two or, upon request, more copies of a written report of the results of the COMS performance evaluation described in paragraph (c) of this section at least 10 days before the performance test required under §60.8 is conducted.

(2) Except as provided in paragraph (c)(1) of this section, the owner or operator of an affected facility shall furnish the Administrator within 60 days of completion two or, upon request, more copies of a written report of the results of the performance evaluation.

(d)

(1) Owners and operators of a CEMS installed in accordance with the provisions of this part, must check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span must, as a minimum, be adjusted whenever either the 24-hour zero drift or the 24-hour span drift exceeds two times the limit of the applicable performance specification in appendix B of this part. The system must allow the amount of the excess zero and span drift to be recorded and quantified whenever specified. Owners and operators of a COMS installed in accordance with the provisions of this part, must automatically, intrinsic to the opacity monitor, check the zero and upscale (span) calibration drifts at least once daily. For a particular COMS, the acceptable range of zero and upscale calibration materials is as defined in the applicable version of PS–1 in appendix B of this part. For a COMS, the optical surfaces, exposed to the effluent gases, must be cleaned before performing the zero and upscale drift adjustments, except for systems using automatic zero adjustments. The optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(2) Unless otherwise approved by the Administrator, the following procedures must be followed for a COMS. Minimum procedures must include an automated method for producing a simulated zero opacity condition and an upscale opacity condition using a certified neutral density filter or other related technique to produce a known obstruction of the light beam. Such procedures must provide a system check of all active analyzer internal optics with power or curvature, all active electronic circuitry including the light source and photodetector assembly, and electronic or electro-mechanical systems and hardware and or software used during normal measurement operation.

(e) Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under paragraph (d) of this section, all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(1) All continuous monitoring systems referenced by paragraph (c) of this section for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(2) All continuous monitoring systems referenced by paragraph (c) of this section for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(f) All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of appendix B of this part shall be used.

(g) When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless the installation of fewer systems is approved by the Administrator. When more than one continuous monitoring system is used to measure the emissions from one affected facility (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system.

(h)

(1) Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in §60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period.

(2) For continuous monitoring systems other than opacity, 1-hour averages shall be computed as follows, except that the provisions pertaining to the validation of partial operating hours are only applicable for affected facilities that are required by the applicable subpart to include partial hours in the emission calculations:

(i) Except as provided under paragraph (h)(2)(iii) of this section, for a full operating hour (any clock hour with 60 minutes of unit operation), at least four valid data points are required to calculate the hourly average, *i.e.* , one data point in each of the 15-minute quadrants of the hour.

(ii) Except as provided under paragraph (h)(2)(iii) of this section, for a partial operating hour (any clock hour with less than 60 minutes of unit operation), at least one valid data point in each 15-minute quadrant of the hour in which the unit operates is required to calculate the hourly average.

(iii) For any operating hour in which required maintenance or quality-assurance activities are performed:

(A) If the unit operates in two or more quadrants of the hour, a minimum of two valid data points, separated by at least 15 minutes, is required to calculate the hourly average; or

(B) If the unit operates in only one quadrant of the hour, at least one valid data point is required to calculate the hourly average.

(iv) If a daily calibration error check is failed during any operating hour, all data for that hour shall be invalidated, unless a subsequent calibration error test is passed in the same hour and the requirements of paragraph (h)(2)(iii) of this section are met, based solely on valid data recorded after the successful calibration.

(v) For each full or partial operating hour, all valid data points shall be used to calculate the hourly average.

(vi) Except as provided under paragraph (h)(2)(vii) of this section, data recorded during periods of continuous monitoring system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph.

(vii) Owners and operators complying with the requirements of §60.7(f)(1) or (2) must include any data recorded during periods of monitor breakdown or malfunction in the data averages.

(viii) When specified in an applicable subpart, hourly averages for certain partial operating hours shall not be computed or included in the emission averages (*e.g.* hours with < 30 minutes of unit operation under §60.47b(d)).

(ix) Either arithmetic or integrated averaging of all data may be used to calculate the hourly averages. The data may be recorded in reduced or nonreduced form (*e.g.* , ppm pollutant and percent O_2or ng/J of pollutant).

(3) All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the applicable subpart. After conversion into units of the standard, the data may be rounded to the same number of significant digits used in the applicable subpart to specify the emission limit.

(i) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following:

(1) Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this part would not provide accurate measurements due to liquid water or other interferences caused by substances in the effluent gases.

(2) Alternative monitoring requirements when the affected facility is infrequently operated.

(3) Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.

(4) Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements.

(5) Alternative methods of converting pollutant concentration measurements to units of the standards.

(6) Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells.

(7) Alternatives to the A.S.T.M. test methods or sampling procedures specified by any subpart.

(8) Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, appendix B, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1. The Administrator may require that such demonstration be performed for each affected facility.

(9) Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two or more affected facilities is released to the atmosphere through more than one point.

(j) An alternative to the relative accuracy (RA) test specified in Performance Specification 2 of appendix B may be requested as follows:

(1) An alternative to the reference method tests for determining RA is available for sources with emission rates demonstrated to be less than 50 percent of the applicable standard. A source owner or operator may petition the Administrator to waive the RA test in Section 8.4 of Performance Specification 2 and substitute the procedures in Section 16.0 if the results of a performance test conducted according to the requirements in §60.8 of this subpart or other tests performed following the criteria in §60.8 demonstrate that the emission rate of the pollutant of interest in the units of the applicable standard is less than 50 percent of the applicable standard. For sources subject to standards expressed as control efficiency levels, a source owner or operator may petition the Administrator to waive the RA test and substitute the procedures in Section 16.0 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the continuous emission monitoring system is used to determine compliance continuously with the applicable standard. The petition to waive the RA test shall include a detailed description of the procedures to be applied. Included shall be location and procedure for conducting the alternative, the concentration or response levels of the alternative RA materials, and the other equipment checks included in the alternative procedure. The Administrator will review the petition for completeness and applicability. The determination to grant a waiver will depend on the intended use of the CEMS data (e.g., data collection purposes other than NSPS) and may require specifications more stringent than in Performance Specification 2 (e.g., the applicable emission limit is more stringent than NSPS).

(2) The waiver of a CEMS RA test will be reviewed and may be rescinded at such time, following successful completion of the alternative RA procedure, that the CEMS data indicate that the source emissions are approaching the level. The criterion for reviewing the waiver is the collection of CEMS data showing that emissions have exceeded 70 percent of the applicable standard for seven, consecutive, averaging periods as specified by the applicable regulation(s). For sources subject to standards expressed as control efficiency levels, the criterion for reviewing the waiver is the collection of CEMS data showing that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for seven, consecutive, averaging periods as specified by the applicable regulation(s) [e.g., §60.45(g) (2) and (3), §60.73(e), and §60.84(e)]. It is the responsibility of the source operator to maintain records and determine the level of emissions relative to the criterion on the waiver of RA testing. If this criterion is exceeded, the owner or operator must notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increasing emissions. The Administrator will review the notification and may rescind the waiver and require the owner or operator to conduct a RA test of the CEMS as specified in Section 8.4 of Performance Specification 2.

[40 FR 46255, Oct. 6, 1975; 40 FR 59205, Dec. 22, 1975, as amended at 41 FR 35185, Aug. 20, 1976; 48 FR 13326, Mar. 30, 1983; 48 FR 23610, May 25, 1983; 48 FR 32986, July 20, 1983; 52 FR 9782, Mar. 26, 1987; 52 FR 17555, May 11, 1987; 52 FR 21007, June 4, 1987; 64 FR 7463, Feb. 12, 1999; 65 FR 48920, Aug. 10, 2000; 65 FR 61749, Oct. 17, 2000; 66 FR 44980, Aug. 27, 2001; 71 FR 31102, June 1, 2006; 72 FR 32714, June 13, 2007]

Editorial Note: At 65 FR 61749, Oct. 17, 2000, §60.13 was amended by revising the words “ng/J of pollutant” to read “ng of pollutant per J of heat input” in the sixth sentence of paragraph (h). However, the amendment could not be incorporated because the words “ng/J of pollutant” do not exist in the sixth sentence of paragraph (h).

§ 60.14 Modification.

(a) Except as provided under paragraphs (e) and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.

(b) Emission rate shall be expressed as kg/hr of any pollutant discharged into the atmosphere for which a standard is applicable. The Administrator shall use the following to determine emission rate:

(1) Emission factors as specified in the latest issue of "Compilation of Air Pollutant Emission Factors," EPA Publication No. AP–42, or other emission factors determined by the Administrator to be superior to AP–42 emission factors, in cases where utilization of emission factors demonstrates that the emission level resulting from the physical or operational change will either clearly increase or clearly not increase.

(2) Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in paragraph (b)(1) of this section does not demonstrate to the Administrator's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator demonstrates to the Administrator's satisfaction that there are reasonable grounds to dispute the result obtained by the Administrator utilizing emission factors as referenced in paragraph (b)(1) of this section. When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in appendix C of this part shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Administrator shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.

(c) The addition of an affected facility to a stationary source as an expansion to that source or as a replacement for an existing facility shall not by itself bring within the applicability of this part any other facility within that source.

(d) [Reserved]

(e) The following shall not, by themselves, be considered modifications under this part:

(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of paragraph (c) of this section and §60.15.

(2) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility.

(3) An increase in the hours of operation.

(4) Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, as provided by §60.1, the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications as amended prior to the change. Conversion to coal required for energy considerations, as specified in section 111(a)(8) of the Act, shall not be considered a modification.

(5) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Administrator determines to be less environmentally beneficial.

(6) The relocation or change in ownership of an existing facility.

(f) Special provisions set forth under an applicable subpart of this part shall supersede any conflicting provisions of this section.

(g) Within 180 days of the completion of any physical or operational change subject to the control measures specified in paragraph (a) of this section, compliance with all applicable standards must be achieved.

(h) No physical change, or change in the method of operation, at an existing electric utility steam generating unit shall be treated as a modification for the purposes of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the 5 years prior to the change.

(i) Repowering projects that are awarded funding from the Department of Energy as permanent clean coal technology demonstration projects (or similar projects funded by EPA) are exempt from the requirements of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the five years prior to the change.

(j)

(1) Repowering projects that qualify for an extension under section 409(b) of the Clean Air Act are exempt from the requirements of this section, provided that such change does not increase the actual hourly emissions of any

pollutant regulated under this section above the actual hourly emissions achievable at that unit during the 5 years prior to the change.

(2) This exemption shall not apply to any new unit that:

(i) Is designated as a replacement for an existing unit;

(ii) Qualifies under section 409(b) of the Clean Air Act for an extension of an emission limitation compliance date under section 405 of the Clean Air Act; and

(iii) Is located at a different site than the existing unit.

(k) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project is exempt from the requirements of this section. A *temporary clean coal control technology demonstration project,* for the purposes of this section is a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State implementation plan for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

(l) The reactivation of a very clean coal-fired electric utility steam generating unit is exempt from the requirements of this section.

[40 FR 58419, Dec. 16, 1975, as amended at 43 FR 34347, Aug. 3, 1978; 45 FR 5617, Jan. 23, 1980; 57 FR 32339, July 21, 1992; 65 FR 61750, Oct. 17, 2000]

§ 60.15 Reconstruction.

(a) An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate.

(b) "Reconstruction" means the replacement of components of an existing facility to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and

(2) It is technologically and economically feasible to meet the applicable standards set forth in this part.

(c) "Fixed capital cost" means the capital needed to provide all the depreciable components.

(d) If an owner or operator of an existing facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, he shall notify the Administrator of the proposed replacements. The notice must be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced and must include the following information:

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

(2) The location of the existing facility.

(3) A brief description of the existing facility and the components which are to be replaced.

(4) A description of the existing air pollution control equipment and the proposed air pollution control equipment.

(5) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility.

(6) The estimated life of the existing facility after the replacements.

(7) A discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.

(e) The Administrator will determine, within 30 days of the receipt of the notice required by paragraph (d) of this section and any additional information he may reasonably require, whether the proposed replacement constitutes reconstruction.

(f) The Administrator's determination under paragraph (e) shall be based on:

(1) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new facility;

(2) The estimated life of the facility after the replacements compared to the life of a comparable entirely new facility;

(3) The extent to which the components being replaced cause or contribute to the emissions from the facility; and

(4) Any economic or technical limitations on compliance with applicable standards of performance which are inherent in the proposed replacements.

(g) Individual subparts of this part may include specific provisions which refine and delimit the concept of reconstruction set forth in this section.

[40 FR 58420, Dec. 16, 1975]

§ 60.16 Priority list.

A list of prioritized major source categories may be found at the following EPA web site:
http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div6&view=text&node=40:6.0.1.1.1.1&idno=40

[47 FR 951, Jan. 8, 1982, as amended at 47 FR 31876, July 23, 1982; 51 FR 42796, Nov. 25, 1986; 52 FR 11428, Apr. 8, 1987; 61 FR 9919, Mar. 12, 1996]

§ 60.17 Incorporations by reference.

The materials listed below are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the Federal Register on the date listed. These materials are incorporated as they exist on the date of the approval, and a notice of any change in these materials will be published in the Federal Register. The materials are available for purchase at the corresponding address noted below, and all are available for inspection at the Library (C267–01), U.S. EPA, Research Triangle Park, NC or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

(a) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.

(1) ASTM A99–76, 82 (Reapproved 1987), Standard Specification for Ferromanganese, incorporation by reference (IBR) approved for §60.261.

(2) ASTM A100–69, 74, 93, Standard Specification for Ferrosilicon, IBR approved for §60.261.

(3) ASTM A101–73, 93, Standard Specification for Ferrochromium, IBR approved for §60.261.

(4) ASTM A482–76, 93, Standard Specification for Ferrochromesilicon, IBR approved for §60.261.

(5) ASTM A483–64, 74 (Reapproved 1988), Standard Specification for Silicomanganese, IBR approved for §60.261.

(6) ASTM A495–76, 94, Standard Specification for Calcium-Silicon and Calcium Manganese-Silicon, IBR approved for §60.261.

(7) ASTM D86–78, 82, 90, 93, 95, 96, Distillation of Petroleum Products, IBR approved for §§60.562–2(d), 60.593(d), 60.593a(d), and 60.633(h).

(8) ASTM D129–64, 78, 95, 00, Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), IBR approved for §§60.106(j)(2), 60.335(b)(10)(i), and Appendix A: Method 19, 12.5.2.2.3.

(9) ASTM D129–00 (Reapproved 2005), Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), IBR approved for §60.4415(a)(1)(i).

(10) ASTM D240–76, 92, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, IBR approved for §§60.46(c), 60.296(b), and Appendix A: Method 19, Section 12.5.2.2.3.

(11) ASTM D270–65, 75, Standard Method of Sampling Petroleum and Petroleum Products, IBR approved for Appendix A: Method 19, Section 12.5.2.2.1.

(12) ASTM D323–82, 94, Test Method for Vapor Pressure of Petroleum Products (Reid Method), IBR approved for §§60.111(l), 60.111a(g), 60.111b(g), and 60.116b(f)(2)(ii).

(13) ASTM D388–77, 90, 91, 95, 98a, 99 (Reapproved 2004)ε^1 , Standard Specification for Classification of Coals by Rank, IBR approved for §§60.24(h)(8), 60.41 of subpart D of this part, 60.45(f)(4)(i), 60.45(f)(4)(ii), 60.45(f)(4)(vi), 60.41Da of subpart Da of this part, 60.41b of subpart Db of this part, 60.41c of subpart Dc of this part, and 60.4102.

(14) ASTM D388–77, 90, 91, 95, 98a, Standard Specification for Classification of Coals by Rank, IBR approved for §§60.251(b) and (c) of subpart Y of this part.

(15) ASTM D396–78, 89, 90, 92, 96, 98, Standard Specification for Fuel Oils, IBR approved for §§60.41b of subpart Db of this part, 60.41c of subpart Dc of this part, 60.111(b) of subpart K of this part, and 60.111a(b) of subpart Ka of this part.

(16) ASTM D975–78, 96, 98a, Standard Specification for Diesel Fuel Oils, IBR approved for §§60.111(b) of subpart K of this part and 60.111a(b) of subpart Ka of this part.

(17) ASTM D1072–80, 90 (Reapproved 1994), Standard Test Method for Total Sulfur in Fuel Gases, IBR approved for §60.335(b)(10)(ii).

(18) ASTM D1072–90 (Reapproved 1999), Standard Test Method for Total Sulfur in Fuel Gases, IBR approved for §60.4415(a)(1)(ii).

(19) ASTM D1137–53, 75, Standard Method for Analysis of Natural Gases and Related Types of Gaseous Mixtures by the Mass Spectrometer, IBR approved for §60.45(f)(5)(i).

(20) ASTM D1193–77, 91, Standard Specification for Reagent Water, IBR approved for Appendix A: Method 5, Section 7.1.3; Method 5E, Section 7.2.1; Method 5F, Section 7.2.1; Method 6, Section 7.1.1; Method 7, Section 7.1.1; Method 7C, Section 7.1.1; Method 7D, Section 7.1.1; Method 10A, Section 7.1.1; Method 11, Section 7.1.3; Method 12, Section 7.1.3; Method 13A, Section 7.1.2; Method 26, Section 7.1.2; Method 26A, Section 7.1.2; and Method 29, Section 7.2.2.

(21) ASTM D1266–87, 91, 98, Standard Test Method for Sulfur in Petroleum Products (Lamp Method), IBR approved for §§60.106(j)(2) and 60.335(b)(10)(i).

(22) ASTM D1266–98 (Reapproved 2003)e1, Standard Test Method for Sulfur in Petroleum Products (Lamp Method), IBR approved for §60.4415(a)(1)(i).

(23) ASTM D1475–60 (Reapproved 1980), 90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for §60.435(d)(1), Appendix A: Method 24, Section 6.1; and Method 24A, Sections 6.5 and 7.1.

(24) ASTM D1552–83, 95, 01, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), IBR approved for §§60.106(j)(2), 60.335(b)(10)(i), and Appendix A: Method 19, Section 12.5.2.2.3.

(25) ASTM D1552–03, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), IBR approved for §60.4415(a)(1)(i).

(26) ASTM D1826–77, 94, Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, IBR approved for §§60.45(f)(5)(ii), 60.46(c)(2), 60.296(b)(3), and Appendix A: Method 19, Section 12.3.2.4.

(27) ASTM D1835–87, 91, 97, 03a, Standard Specification for Liquefied Petroleum (LP) Gases, IBR approved for §§60.41Da of subpart Da of this part, 60.41b of subpart Db of this part, and 60.41c of subpart Dc of this part.

(28) ASTM D1945–64, 76, 91, 96, Standard Method for Analysis of Natural Gas by Gas Chromatography, IBR approved for §60.45(f)(5)(i).

(29) ASTM D1946–77, 90 (Reapproved 1994), Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for §§60.18(f)(3), 60.45(f)(5)(i), 60.564(f)(1), 60.614(e)(2)(ii), 60.614(e)(4), 60.664(e)(2)(ii), 60.664(e)(4), 60.704(d)(2)(ii), and 60.704(d)(4).

(30) ASTM D2013–72, 86, Standard Method of Preparing Coal Samples for Analysis, IBR approved for Appendix A: Method 19, Section 12.5.2.1.3.

(31) ASTM D2015–77 (Reapproved 1978), 96, Standard Test Method for Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, IBR approved for §60.45(f)(5)(ii), 60.46(c)(2), and Appendix A: Method 19, Section 12.5.2.1.3.

(32) ASTM D2016–74, 83, Standard Test Methods for Moisture Content of Wood, IBR approved for Appendix A: Method 28, Section 16.1.1.

(33) ASTM D2234–76, 96, 97b, 98, Standard Methods for Collection of a Gross Sample of Coal, IBR approved for Appendix A: Method 19, Section 12.5.2.1.1.

(34) ASTM D2369–81, 87, 90, 92, 93, 95, Standard Test Method for Volatile Content of Coatings, IBR approved for Appendix A: Method 24, Section 6.2.

(35) ASTM D2382–76, 88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for §§60.18(f)(3), 60.485(g)(6), 60.485a(g)(6), 60.564(f)(3), 60.614(e)(4), 60.664(e)(4), and 60.704(d)(4).

(36) ASTM D2504–67, 77, 88 (Reapproved 1993), Noncondensible Gases in C3 and Lighter Hydrocarbon Products by Gas Chromatography, IBR approved for §§60.485(g)(5) and 60.485a(g)(5).

(37) ASTM D2584–68 (Reapproved 1985), 94, Standard Test Method for Ignition Loss of Cured Reinforced Resins, IBR approved for §60.685(c)(3)(i).

(38) ASTM D2597–94 (Reapproved 1999), Standard Test Method for Analysis of Demethanized Hydrocarbon Liquid Mixtures Containing Nitrogen and Carbon Dioxide by Gas Chromatography, IBR approved for §60.335(b)(9)(i).

(39) ASTM D2622–87, 94, 98, Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry, IBR approved for §§60.106(j)(2) and 60.335(b)(10)(i).

(40) ASTM D2622–05, Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry, IBR approved for §60.4415(a)(1)(i).

(41) ASTM D2879–83, 96, 97, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for §§60.111b(f)(3), 60.116b(e)(3)(ii), 60.116b(f)(2)(i), 60.485(e)(1), and 60.485a(e)(1).

(42) ASTM D2880–78, 96, Standard Specification for Gas Turbine Fuel Oils, IBR approved for §§60.111(b), 60.111a(b), and 60.335(d).

(43) ASTM D2908–74, 91, Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, IBR approved for §60.564(j).

(44) ASTM D2986–71, 78, 95a, Standard Method for Evaluation of Air, Assay Media by the Monodisperse DOP (Dioctyl Phthalate) Smoke Test, IBR approved for Appendix A: Method 5, Section 7.1.1; Method 12, Section 7.1.1; and Method 13A, Section 7.1.1.2.

(45) ASTM D3173–73, 87, Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, IBR approved for Appendix A: Method 19, Section 12.5.2.1.3.

(46) ASTM D3176–74, 89, Standard Method for Ultimate Analysis of Coal and Coke, IBR approved for §60.45(f)(5)(i) and Appendix A: Method 19, Section 12.3.2.3.

(47) ASTM D3177–75, 89, Standard Test Method for Total Sulfur in the Analysis Sample of Coal and Coke, IBR approved for Appendix A: Method 19, Section 12.5.2.1.3.

(48) ASTM D3178–73 (Reapproved 1979), 89, Standard Test Methods for Carbon and Hydrogen in the Analysis Sample of Coal and Coke, IBR approved for §60.45(f)(5)(i).

(49) ASTM D3246–81, 92, 96, Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry, IBR approved for §60.335(b)(10)(ii).

(50) ASTM D3246–05, Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry, IBR approved for §60.4415(a)(1)(ii).

(51) ASTM D3270–73T, 80, 91, 95, Standard Test Methods for Analysis for Fluoride Content of the Atmosphere and Plant Tissues (Semiautomated Method), IBR approved for Appendix A: Method 13A, Section 16.1.

(52) ASTM D3286–85, 96, Standard Test Method for Gross Calorific Value of Coal and Coke by the Isoperibol Bomb Calorimeter, IBR approved for Appendix A: Method 19, Section 12.5.2.1.3.

(53) ASTM D3370–76, 95a, Standard Practices for Sampling Water, IBR approved for §60.564(j).

(54) ASTM D3792–79, 91, Standard Test Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for Appendix A: Method 24, Section 6.3.

(55) ASTM D4017–81, 90, 96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for Appendix A: Method 24, Section 6.4.

(56) ASTM D4057–81, 95, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, IBR approved for Appendix A: Method 19, Section 12.5.2.2.3.

(57) ASTM D4057–95 (Reapproved 2000), Standard Practice for Manual Sampling of Petroleum and Petroleum Products, IBR approved for §60.4415(a)(1).

(58) ASTM D4084–82, 94, Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), IBR approved for §60.334(h)(1).

(59) ASTM D4084–05, Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), IBR approved for §§60.4360 and 60.4415(a)(1)(ii).

(60) ASTM D4177–95, Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, IBR approved for Appendix A: Method 19, Section 12.5.2.2.1.

(61) ASTM D4177–95 (Reapproved 2000), Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, IBR approved for §60.4415(a)(1).

(62) ASTM D4239–85, 94, 97, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods, IBR approved for Appendix A: Method 19, Section 12.5.2.1.3.

(63) ASTM D4294–02, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, IBR approved for §60.335(b)(10)(i).

(64) ASTM D4294–03, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, IBR approved for §60.4415(a)(1)(i).

(65) ASTM D4442–84, 92, Standard Test Methods for Direct Moisture Content Measurement in Wood and Wood-base Materials, IBR approved for Appendix A: Method 28, Section 16.1.1.

(66) ASTM D4444–92, Standard Test Methods for Use and Calibration of Hand-Held Moisture Meters, IBR approved for Appendix A: Method 28, Section 16.1.1.

(67) ASTM D4457–85 (Reapproved 1991), Test Method for Determination of Dichloromethane and 1, 1, 1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph, IBR approved for Appendix A: Method 24, Section 6.5.

(68) ASTM D4468–85 (Reapproved 2000), Standard Test Method for Total Sulfur in Gaseous Fuels by Hydrogenolysis and Rateometric Colorimetry, IBR approved for §§60.335(b)(10)(ii) and 60.4415(a)(1)(ii).

(69) ASTM D4629–02, Standard Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons by Syringe/Inlet Oxidative Combustion and Chemiluminescence Detection, IBR approved for §§60.49b(e) and 60.335(b)(9)(i).

(70) ASTM D4809–95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for §§60.18(f)(3), 60.485(g)(6), 60.485a(g)(6), 60.564(f)(3), 60.614(d)(4), 60.664(e)(4), and 60.704(d)(4).

(71) ASTM D4810–88 (Reapproved 1999), Standard Test Method for Hydrogen Sulfide in Natural Gas Using Length of Stain Detector Tubes, IBR approved for §§60.4360 and 60.4415(a)(1)(ii).

(72) ASTM D5287–97 (Reapproved 2002), Standard Practice for Automatic Sampling of Gaseous Fuels, IBR approved for §60.4415(a)(1).

(73) ASTM D5403–93, Standard Test Methods for Volatile Content of Radiation Curable Materials, IBR approved for Appendix A: Method 24, Section 6.6.

(74) ASTM D5453–00, Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Motor Fuels and Oils by Ultraviolet Fluorescence, IBR approved for §60.335(b)(10)(i).

(75) ASTM D5453–05, Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Motor Fuels and Oils by Ultraviolet Fluorescence, IBR approved for §60.4415(a)(1)(i).

(76) ASTM D5504–01, Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence, IBR approved for §§60.334(h)(1) and 60.4360.

(77) ASTM D5762–02, Standard Test Method for Nitrogen in Petroleum and Petroleum Products by Boat-Inlet Chemiluminescence, IBR approved for §60.335(b)(9)(i).

(78) ASTM D5865–98, Standard Test Method for Gross Calorific Value of Coal and Coke, IBR approved for §60.45(f)(5)(ii), 60.46(c)(2), and Appendix A: Method 19, Section 12.5.2.1.3.

(79) ASTM D6216–98, Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications, IBR approved for Appendix B, Performance Specification 1.

(80) ASTM D6228–98, Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Flame Photometric Detection, IBR approved for §60.334(h)(1).

(81) ASTM D6228–98 (Reapproved 2003), Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Flame Photometric Detection, IBR approved for §§60.4360 and 60.4415.

(82) ASTM D6348–03, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, IBR approved for table 7 of Subpart IIII of this part and table 2 of subpart JJJJ of this part.

(83) ASTM D6366–99, Standard Test Method for Total Trace Nitrogen and Its Derivatives in Liquid Aromatic Hydrocarbons by Oxidative Combustion and Electrochemical Detection, IBR approved for §60.335(b)(9)(i).

(84) ASTM D6420–99 (Reapproved 2004) Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, IBR approved for table 2 of subpart JJJJ of this part.

(85) ASTM D6522–00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, IBR approved for §60.335(a).

(86) ASTM D6522–00 (Reapproved 2005), Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, IBR approved for table 2 of subpart JJJJ of this part.

(87) ASTM D6667–01, Standard Test Method for Determination of Total Volatile Sulfur in Gaseous Hydrocarbons and Liquefied Petroleum Gases by Ultraviolet Fluorescence, IBR approved for §60.335(b)(10)(ii).

(88) ASTM D6667–04, Standard Test Method for Determination of Total Volatile Sulfur in Gaseous Hydrocarbons and Liquefied Petroleum Gases by Ultraviolet Fluorescence, IBR approved for §60.4415(a)(1)(ii).

(89) ASTM D6784–02, Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), IBR approved for Appendix B to part 60, Performance Specification 12A, Section 8.6.2.

(90) ASTM E168–67, 77, 92, General Techniques of Infrared Quantitative Analysis, IBR approved for §§60.485a(d)(1), 60.593(b)(2), 60.593a(b)(2), and 60.632(f).

(91) ASTM E169–63, 77, 93, General Techniques of Ultraviolet Quantitative Analysis, IBR approved for §§60.485a(d)(1), 60.593(b)(2), 60.593a(b)(2), and 60.632(f).

(92) ASTM E260–73, 91, 96, General Gas Chromatography Procedures, IBR approved for §§60.485a(d)(1), 60.593(b)(2), 60.593a(b)(2), and 60.632(f).

(b) The following material is available for purchase from the Association of Official Analytical Chemists, 1111 North 19th Street, Suite 210, Arlington, VA 22209.

(1) AOAC Method 9, Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11–12, IBR approved January 27, 1983 for §§60.204(b)(3), 60.214(b)(3), 60.224(b)(3), 60.234(b)(3).

(c) The following material is available for purchase from the American Petroleum Institute, 1220 L Street NW., Washington, DC 20005.

(1) API Publication 2517, Evaporation Loss from External Floating Roof Tanks, Second Edition, February 1980, IBR approved January 27, 1983, for §§60.111(i), 60.111a(f), 60.111a(f)(1) and 60.116b(e)(2)(i).

(d) The following material is available for purchase from the Technical Association of the Pulp and Paper Industry (TAPPI), Dunwoody Park, Atlanta, GA 30341.

(1) TAPPI Method T624 os–68, IBR approved January 27, 1983 for §60.285(d)(3).

(e) The following material is available for purchase from the Water Pollution Control Federation (WPCF), 2626 Pennsylvania Avenue NW., Washington, DC 20037.

(1) Method 209A, Total Residue Dried at 103–105 °C, in Standard Methods for the Examination of Water and Wastewater, 15th Edition, 1980, IBR approved February 25, 1985 for §60.683(b).

(f) The following material is available for purchase from the following address: Underwriter's Laboratories, Inc. (UL), 333 Pfingsten Road, Northbrook, IL 60062.

(1) UL 103, Sixth Edition revised as of September 3, 1986, Standard for Chimneys, Factory-built, Residential Type and Building Heating Appliance.

(g) The following material is available for purchase from the following address: West Coast Lumber Inspection Bureau, 6980 SW. Barnes Road, Portland, OR 97223.

(1) West Coast Lumber Standard Grading Rules No. 16, pages 5–21 and 90 and 91, September 3, 1970, revised 1984.

(h) The following material is available for purchase from the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016–5990.

(1) ASME QRO–1–1994, Standard for the Qualification and Certification of Resource Recovery Facility Operators, IBR approved for §§60.56a, 60.54b(a), 60.54b(b), 60.1185(a), 60.1185(c)(2), 60.1675(a), and 60.1675(c)(2).

(2) ASME PTC 4.1–1964 (Reaffirmed 1991), Power Test Codes: Test Code for Steam Generating Units (with 1968 and 1969 Addenda), IBR approved for §§60.46b of subpart Db of this part, 60.58a(h)(6)(ii), 60.58b(i)(6)(ii), 60.1320(a)(3) and 60.1810(a)(3).

(3) ASME Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th Edition (1971), IBR approved for §§60.58a(h)(6)(ii), 60.58b(i)(6)(ii), 60.1320(a)4), and 60.1810(a)(4).

(4) ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], IBR approved for Tables 1 and 3 of subpart EEEE, Tables 2 and 4 of subpart FFFF, Table 2 of subpart JJJJ, and §§60.4415(a)(2) and 60.4415(a)(3) of subpart KKKK of this part.

(i) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW–846 Third Edition (November 1986), as amended by Updates I (July 1992), II (September 1994), IIA (August, 1993), IIB (January 1995), and III (December 1996). This document may be obtained from the U.S. EPA, Office of Solid Waste and Emergency Response, Waste Characterization Branch, Washington, DC 20460, and is incorporated by reference for appendix A to part 60, Method 29, Sections 7.5.34; 9.2.1; 9.2.3; 10.2; 10.3; 11.1.1; 11.1.3; 13.2.1; 13.2.2; 13.3.1; and Table 29–3.

(j) "Standard Methods for the Examination of Water and Wastewater," 16th edition, 1985. Method 303F: "Determination of Mercury by the Cold Vapor Technique." This document may be obtained from the American Public Health Association, 1015 18th Street, NW., Washington, DC 20036, and is incorporated by reference for appendix A to part 60, Method 29, Sections 9.2.3; 10.3; and 11.1.3.

(k) This material is available for purchase from the American Hospital Association (AHA) Service, Inc., Post Office Box 92683, Chicago, Illinois 60675–2683. You may inspect a copy at EPA's Air and Radiation Docket and Information Center (Docket A–91–61, Item IV–J–124), Room M–1500, 1200 Pennsylvania Ave., NW., Washington, DC.

(1) An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities. American Society for Health Care Environmental Services of the American Hospital Association. Chicago, Illinois. 1993. AHA Catalog No. 057007. ISBN 0–87258–673–5. IBR approved for §60.35e and §60.55c.

(l) This material is available for purchase from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia 22161. You may inspect a copy at EPA's Air and Radiation Docket and Information Center (Docket A–91–61, Item IV–J–125), Room M–1500, 1200 Pennsylvania Ave., NW., Washington, DC.

(1) OMB Bulletin No. 93–17: Revised Statistical Definitions for Metropolitan Areas. Office of Management and Budget, June 30, 1993. NTIS No. PB 93–192–664. IBR approved for §60.31e.

(m) This material is available for purchase from at least one of the following addresses: The Gas Processors Association, 6526 East 60th Street, Tulsa, OK, 74145; or Information Handling Services, 15 Inverness Way East, PO Box 1154, Englewood, CO 80150–1154. You may inspect a copy at EPA's Air and Radiation Docket and Information Center, Room B108, 1301 Constitution Ave., NW., Washington, DC 20460.

(1) Gas Processors Association Method 2377–86, Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes, IBR approved for §§60.334(h)(1), 60.4360, and 60.4415(a)(1)(ii).

(2) [Reserved]

(n) This material is available for purchase from IHS Inc., 15 Inverness Way East, Englewood, CO 80112.

(1) International Organization for Standards 8178–4: 1996(E), Reciprocating Internal Combustion Engines—Exhaust Emission Measurement—Part 4: Test Cycles for Different Engine Applications, IBR approved for §60.4241(b).

(2) [Reserved]

[48 FR 3735, Jan. 27, 1983]

Editorial Note: For Federal Register citations affecting §60.17, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 60.18 General control device and work practice requirements.

(a) *Introduction.*

(1) This section contains requirements for control devices used to comply with applicable subparts of 40 CFR parts 60 and 61. The requirements are placed here for administrative convenience and apply only to facilities covered by subparts referring to this section.

(2) This section also contains requirements for an alternative work practice used to identify leaking equipment. This alternative work practice is placed here for administrative convenience and is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, Appendix A–7, Method 21 monitor.

(b) *Flares.* Paragraphs (c) through (f) apply to flares.

(c)

(1) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).

(3) An owner/operator has the choice of adhering to either the heat content specifications in paragraph (c)(3)(ii) of this section and the maximum tip velocity specifications in paragraph (c)(4) of this section, or adhering to the requirements in paragraph (c)(3)(i) of this section.

(i)

(A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, V_{max}, as determined by the following equation:

$$V_{max}=(X_{H2}-K_1)* K_2$$

Where:
V_{max} = Maximum permitted velocity, m/sec.
K_1 = Constant, 6.0 volume-percent hydrogen.
K_2 = Constant, 3.9(m/sec)/volume-percent hydrogen.
X_{H2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946–77. (Incorporated by reference as specified in §60.17).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (f)(4) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f)(3) of this section.

(4)

(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4) of this section, less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (c)(4) (ii) and (iii) of this section.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than the velocity, V_{max}, as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.

(5) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, V_{max}, as determined by the method specified in paragraph (f)(6).

(6) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators of flares shall monitor these control devices.

(e) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

(f)

(1) Method 22 of appendix A to this part shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) 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.

(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

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where:
H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

$$K = \text{Constant, } 1.740 \times 10^{-7} \left(\frac{1}{ppm}\right) \left(\frac{g\ mole}{scm}\right) \left(\frac{MJ}{kcal}\right)$$

where the standard temperature for $\left(\frac{g\ mole}{scm}\right)$ is 20°C;

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C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946–77 or 90 (Reapproved 1994) (Incorporated by reference as specified in §60.17); and
H_i = Net heat of combustion of sample component i, kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 (incorporated by reference as specified in §60.17) if published values are not available or cannot be calculated.

(4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

(5) The maximum permitted velocity, V_{max}, for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation.

$$\text{Log}_{10}(V_{max})=(H_T+28.8)/31.7$$

V_{max} = Maximum permitted velocity, M/sec
28.8 = Constant
31.7 = Constant

H_T = The net heating value as determined in paragraph (f)(3).

(6) The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation.

$$V_{max}=8.706+0.7084\ (H_T)$$

V_{max} = Maximum permitted velocity, m/sec
8.706 = Constant
0.7084 = Constant
H_T = The net heating value as determined in paragraph (f)(3).

(g) *Alternative work practice for monitoring equipment for leaks.* Paragraphs (g), (h), and (i) of this section apply to all equipment for which the applicable subpart requires monitoring with a 40 CFR part 60, Appendix A–7, Method 21 monitor, except for closed vent systems, equipment designated as leakless, and equipment identified in the applicable subpart as having no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. An owner or operator may use an optical gas imaging instrument instead of a 40 CFR part 60, Appendix A–7, Method 21 monitor. Requirements in the existing subparts that are specific to the Method 21 instrument do not apply under this section. All other requirements in the applicable subpart that are not addressed in paragraphs (g), (h), and (i) of this section apply to this standard. For example, equipment specification requirements, and non-Method 21 instrument recordkeeping and reporting requirements in the applicable subpart continue to apply. The terms defined in paragraphs (g)(1) through (5) of this section have meanings that are specific to the alternative work practice standard in paragraphs (g), (h), and (i) of this section.

(1) *Applicable subpart* means the subpart in 40 CFR parts 60, 61, 63, or 65 that requires monitoring of equipment with a 40 CFR part 60, Appendix A–7, Method 21 monitor.

(2) *Equipment* means pumps, valves, pressure relief valves, compressors, open-ended lines, flanges, connectors, and other equipment covered by the applicable subpart that require monitoring with a 40 CFR part 60, Appendix A–7, Method 21 monitor.

(3) *Imaging* means making visible emissions that may otherwise be invisible to the naked eye.

(4) *Optical gas imaging instrument* means an instrument that makes visible emissions that may otherwise be invisible to the naked eye.

(5) *Repair* means that equipment is adjusted, or otherwise altered, in order to eliminate a leak.

(6) *Leak* means:

(i) Any emissions imaged by the optical gas instrument;

(ii) Indications of liquids dripping;

(iii) Indications by a sensor that a seal or barrier fluid system has failed; or

(iv) Screening results using a 40 CFR part 60, Appendix A–7, Method 21 monitor that exceed the leak definition in the applicable subpart to which the equipment is subject.

(h) The alternative work practice standard for monitoring equipment for leaks is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, Appendix A–7, Method 21 monitor.

(1) An owner or operator of an affected source subject to CFR parts 60, 61, 63, or 65 can choose to comply with the alternative work practice requirements in paragraph (i) of this section instead of using the 40 CFR part 60, Appendix A–7, Method 21 monitor to identify leaking equipment. The owner or operator must document the equipment, process units, and facilities for which the alternative work practice will be used to identify leaks.

(2) Any leak detected when following the leak survey procedure in paragraph (i)(3) of this section must be identified for repair as required in the applicable subpart.

(3) If the alternative work practice is used to identify leaks, re-screening after an attempted repair of leaking equipment must be conducted using either the alternative work practice or the 40 CFR part 60, Appendix A–7, Method 21 monitor at the leak definition required in the applicable subpart to which the equipment is subject.

(4) The schedule for repair is as required in the applicable subpart.

(5) When this alternative work practice is used for detecting leaking equipment, choose one of the monitoring frequencies listed in Table 1 to subpart A of this part in lieu of the monitoring frequency specified for regulated

equipment in the applicable subpart. Reduced monitoring frequencies for good performance are not applicable when using the alternative work practice.

(6) When this alternative work practice is used for detecting leaking equipment the following are not applicable for the equipment being monitored:

(i) Skip period leak detection and repair;

(ii) Quality improvement plans; or

(iii) Complying with standards for allowable percentage of valves and pumps to leak.

(7) When the alternative work practice is used to detect leaking equipment, the regulated equipment in paragraph (h)(1)(i) of this section must also be monitored annually using a 40 CFR part 60, Appendix A–7, Method 21 monitor at the leak definition required in the applicable subpart. The owner or operator may choose the specific monitoring period (for example, first quarter) to conduct the annual monitoring. Subsequent monitoring must be conducted every 12 months from the initial period. Owners or operators must keep records of the annual Method 21 screening results, as specified in paragraph (i)(4)(vii) of this section.

(i) An owner or operator of an affected source who chooses to use the alternative work practice must comply with the requirements of paragraphs (i)(1) through (i)(5) of this section.

(1) Instrument Specifications. The optical gas imaging instrument must comply with the requirements in (i)(1)(i) and (i)(1)(ii) of this section.

(i) Provide the operator with an image of the potential leak points for each piece of equipment at both the detection sensitivity level and within the distance used in the daily instrument check described in paragraph (i)(2) of this section. The detection sensitivity level depends upon the frequency at which leak monitoring is to be performed.

(ii) Provide a date and time stamp for video records of every monitoring event.

(2) Daily Instrument Check. On a daily basis, and prior to beginning any leak monitoring work, test the optical gas imaging instrument at the mass flow rate determined in paragraph (i)(2)(i) of this section in accordance with the procedure specified in paragraphs (i)(2)(ii) through (i)(2)(iv) of this section for each camera configuration used during monitoring (for example, different lenses used), unless an alternative method to demonstrate daily instrument checks has been approved in accordance with paragraph (i)(2)(v) of this section.

(i) Calculate the mass flow rate to be used in the daily instrument check by following the procedures in paragraphs (i)(2)(i)(A) and (i)(2)(i)(B) of this section.

(A) For a specified population of equipment to be imaged by the instrument, determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, within the distance to be used in paragraph (i)(2)(iv)(B) of this section, at or below the standard detection sensitivity level.

(B) Multiply the standard detection sensitivity level, corresponding to the selected monitoring frequency in Table 1 of subpart A of this part, by the mass fraction of detectable chemicals from the stream identified in paragraph (i)(2)(i)(A) of this section to determine the mass flow rate to be used in the daily instrument check, using the following equation.

$$E_{dic} = \left(E_{sds}\right)\sum_{i=1}^{k} x_i$$

Where:
E_{dic} = Mass flow rate for the daily instrument check, grams per hour
x_i = Mass fraction of detectable chemical(s) i seen by the optical gas imaging instrument, within the distance to be used in paragraph (i)(2)(iv)(B) of this section, at or below the standard detection sensitivity level, E_{sds}.
E_{sds} = Standard detection sensitivity level from Table 1 to subpart A, grams per hour
k = Total number of detectable chemicals emitted from the leaking equipment and seen by the optical gas imaging instrument.

(ii) Start the optical gas imaging instrument according to the manufacturer's instructions, ensuring that all appropriate settings conform to the manufacturer's instructions.

(iii) Use any gas chosen by the user that can be viewed by the optical gas imaging instrument and that has a purity of no less than 98 percent.

(iv) Establish a mass flow rate by using the following procedures:

(A) Provide a source of gas where it will be in the field of view of the optical gas imaging instrument.

(B) Set up the optical gas imaging instrument at a recorded distance from the outlet or leak orifice of the flow meter that will not be exceeded in the actual performance of the leak survey. Do not exceed the operating parameters of the flow meter.

(C) Open the valve on the flow meter to set a flow rate that will create a mass emission rate equal to the mass rate specified in paragraph (i)(2)(i) of this section while observing the gas flow through the optical gas imaging instrument viewfinder. When an image of the gas emission is seen through the viewfinder at the required emission rate, make a record of the reading on the flow meter.

(v) Repeat the procedures specified in paragraphs (i)(2)(ii) through (i)(2)(iv) of this section for each configuration of the optical gas imaging instrument used during the leak survey.

(vi) To use an alternative method to demonstrate daily instrument checks, apply to the Administrator for approval of the alternative under §60.13(i).

(3) Leak Survey Procedure. Operate the optical gas imaging instrument to image every regulated piece of equipment selected for this work practice in accordance with the instrument manufacturer's operating parameters. All emissions imaged by the optical gas imaging instrument are considered to be leaks and are subject to repair. All emissions visible to the naked eye are also considered to be leaks and are subject to repair.

(4) Recordkeeping. You must keep the records described in paragraphs (i)(4)(i) through (i)(4)(vii) of this section:

(i) The equipment, processes, and facilities for which the owner or operator chooses to use the alternative work practice.

(ii) The detection sensitivity level selected from Table 1 to subpart A of this part for the optical gas imaging instrument.

(iii) The analysis to determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, as specified in paragraph (i)(2)(i)(A) of this section.

(iv) The technical basis for the mass fraction of detectable chemicals used in the equation in paragraph (i)(2)(i)(B) of this section.

(v) The daily instrument check. Record the distance, per paragraph (i)(2)(iv)(B) of this section, and the flow meter reading, per paragraph (i)(2)(iv)(C) of this section, at which the leak was imaged. Keep a video record of the daily instrument check for each configuration of the optical gas imaging instrument used during the leak survey (for example, the daily instrument check must be conducted for each lens used). The video record must include a time and date stamp for each daily instrument check. The video record must be kept for 5 years.

(vi) Recordkeeping requirements in the applicable subpart. A video record must be used to document the leak survey results. The video record must include a time and date stamp for each monitoring event. A video record can be used to meet the recordkeeping requirements of the applicable subparts if each piece of regulated equipment selected for this work practice can be identified in the video record. The video record must be kept for 5 years.

(vii) The results of the annual Method 21 screening required in paragraph (h)(7) of this section. Records must be kept for all regulated equipment specified in paragraph (h)(1) of this section. Records must identify the equipment screened, the screening value measured by Method 21, the time and date of the screening, and calibration information required in the existing applicable subpart.

(5) Reporting. Submit the reports required in the applicable subpart. Submit the records of the annual Method 21 screening required in paragraph (h)(7) of this section to the Administrator via e-mail to *CCG-AWP@EPA.GOV*.

[51 FR 2701, Jan. 21, 1986, as amended at 63 FR 24444, May 4, 1998; 65 FR 61752, Oct. 17, 2000; 73 FR 78209, Dec. 22, 2008]

§ 60.19 General notification and reporting requirements.

(a) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word "calendar" is absent, unless otherwise specified in an applicable requirement.

(b) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be delivered or postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery, including the use of electronic media, agreed to by the permitting authority, is acceptable.

(c) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(d) If an owner or operator of an affected facility in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such facility under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. The allowance in the previous sentence applies in each State beginning 1 year after the affected facility is required to be in compliance with the applicable subpart in this part. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(e) If an owner or operator supervises one or more stationary sources affected by standards set under this part and standards set under part 61, part 63, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State with an approved permit program) a common schedule on which periodic reports required by each applicable standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the applicable subpart in this part, or 1 year after the stationary source is required to be in compliance with the applicable 40 CFR part 61 or part 63 of this chapter standard, whichever is latest. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(f)

(1)

(i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (f)(2) and (f)(3) of this section, the owner or operator of an affected facility remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (f)(2) and (f)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

[59 FR 12428, Mar. 16, 1994, as amended at 64 FR 7463, Feb. 12, 1998]

Table 1 to Subpart A to Part 60–Detection Sensitivity Levels (grams per hour)

Monitoring frequency per subpart[a]	Detection sensitivity level
Bi-Monthly	60
Semi-Quarterly	85
Monthly	100

[a]When this alternative work practice is used to identify leaking equipment, the owner or operator must choose one of the monitoring frequencies listed in this table in lieu of the monitoring frequency specified in the applicable subpart. Bi-monthly means every other month. Semi-quarterly means twice per quarter. Monthly means once per month.

[73 FR 78211, Dec. 22, 2008]

Title 40 -- Protection of Environment; Revised as of July 1, 1991

CHAPTER I -- ENVIRONMENTAL PROTECTION AGENCY
SUBCHAPTER C -- AIR PROGRAMS

PART 60 -- STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

§ 60. Appendix B to Part 60 -- Performance Specifications

40 CFR 60. Appendix B to Part 60

APPENDIX B -- PERFORMANCE SPECIFICATIONS

Performance Specification 1 -- Specifications and test procedures for opacity continuous emission monitoring systems in stationary sources

Performance Specification 2 -- Specifications and test procedures for SO[2] and NO[x] continuous emission monitoring systems in stationary sources

Performance Specification 3 -- Specifications and test procedures for O[2] and CO[2] continuous emission monitoring systems in stationary sources

Performance Specification 4 -- Specifications and test procedures for carbon monoxide continuous emission monitoring systems in stationary sources

Performance Specification 4A -- Specifications and test procedures for carbon monoxide continuous emission monitoring systems in stationary sources

Performance Specification 5 -- Specifications and test procedures for TRS continuous emission monitoring systems in stationary sources

Performance Specification 6 -- Specifications and test procedures for continuous emission rate monitoring systems in stationary sources

Performance Specification 7 -- Specifications and test procedures for hydrogen sulfide continuous emission monitoring systems in stationary sources

PERFORMANCE SPECIFICATION 1 -- SPECIFICATIONS AND TEST PROCEDURES FOR OPACITY CONTINUOUS EMISSION MONITORING SYSTEMS IN STATIONARY SOURCES

1. *Applicability and Principle*

1.1 Applicability. This specification contains requirements for the design, performance, and installation of instruments for opacity continuous emission monitoring systems (CEMS's) and data computation procedures for evaluating the acceptability of a CEMS. Certain design requirements and test procedures established in this specification may not apply to all instrument designs. In such instances, equivalent design requirements and test procedures may be used with prior approval of the Administrator.

Performance Specification 1 (PS 1) applies to opacity monitors installed after March 30, 1983. Opacity monitors installed before March 30, 1983, are required to comply with the provisions and requirements of PS 1 except for the following:

(a) Section 4. "Installation Specifications."

(b) Sections 5.1.4, 5.1.6, 5.1.7, and 5.1.8 of Section 5, "Design and Performance Specifications."

(c) Section 6.4 of Section 6 "Design Specifications Verification Procedure."

An opacity monitor installed before March 30, 1983, need not be tested to demonstrate compliance with PS 1 unless required by regulatory action other than the promulgation of PS 1. If an existing monitor is replaced with a new monitor, PS 1 shall apply except that the new monitor may be located at the old measurement location regardless of whether the location meets the requirements of Section 4. If a new measurement location is to be determined, the new location shall meet the requirements of Section 4.

1.2 Principle. The opacity of particulate matter in stack emissions is continuously monitored by a measurement system based upon the principle of transmissometry. Light having specific spectral characteristics is projected from a lamp through the effluent in the stack or duct, and the intensity of the projected light is measured by a sensor. The projected light is attenuated because of absorption and scattered by the particulate matter in the effluent; the percentage of visible light attenuated is defined as the opacity of the emission. Transparent stack emissions that do not attenuate light will have a transmittance of 100 percent or an opacity of zero percent. Opaque stack emissions that attenuate all of the visible light will have a transmittance of zero percent or an opacity of 100 percent.

This specification establishes specific design criteria for the transmissometer system. Any opacity CEMS that is expected to meet this specification is first checked to verify that the design specifications are met. Then, the opacity CEMS is calibrated, installed, and operated for a specified length of time. During this specified time period, the system is evaluated to determine conformance with the established performance specifications.

2. *Definitions*

2.1 Continuous Emission Monitoring System. The total equipment required for the determination of opacity. The system consists of the following major subsystems:

2.1.1 Sample Interface. That portion of CEMS that protects the analyzer from the effects of the stack effluent and aids in keeping the optical surfaces clean.

2.1.2 Analyzer. That portion of the CEMS that senses the pollutant and generates an output that is a function of the opacity.

2.1.3 Data Recorder. That portion of the CEMS that provides a permanent record of the analyzer output in terms of opacity. The data recorder may include automatic data-reduction capabilities.

2.2 Transmissometer. That portion of the CEMS that includes the sample interface and the analyzer.

2.3 Transmittance. The fraction of incident light that is transmitted through an optical medium.

2.4 Opacity. The fraction of incident light that is attenuated by an optical medium. Opacity (Op) and transmittance (Tr) are related by: $Op = 1-Tr$.

2.5 Optical Density. A logarithmic measure of the amount of incident light attenuated. Optical density (D) is related to the transmittance and opacity as follows:

$D=-\log[10] Tr = - \log[10] (1-Op)$.

2.6 Peak Spectral Response. The wavelength of maximum sensitivity of the transmissometer.

2.7 Mean Spectral Response. The wavelength that is the arithmetic mean value of the wavelength distribution for the effective spectral response curve of the transmissometer.

2.8 Angle of View. The angle that contains all of the radiation detected by the photodetector assembly of the analyzer at a level greater than 2.5 percent of the peak detector response.

2.9 Angle of Projection. The angle that contains all of the radiation projected from the lamp assembly of the analyzer at a level of greater than 2.5 percent of the peak illuminance.

2.10 Span Value. The opacity value at which the CEMS is set to produce the maximum data display output as specified in the applicable subpart.

2.11 Upscale Calibration Value. The opacity value at which a calibration check of the CEMS is performed by simulating an upscale opacity condition as viewed by the receiver.

2.12 Calibration Error. The difference between the opacity values indicated by the CEMS and the known values of a series of calibration attenuators (filters or screens).

2.13 Zero Drift. The difference in the CEMS output readings from the zero calibration value after a stated period of normal continuous operation during which no unscheduled maintenance, repair, or adjustment took place. A calibration value of 10 percent opacity or less may be used in place of the zero calibration value.

2.14 Calibration Drift. The difference in the CEMS output readings from the upscale calibration value after a stated period of normal continuous operation during which no unscheduled maintenance, repair, or adjustment took place.

2.15 Response Time. The amount of time it takes the CEMS to display on the data recorder 95 percent of a step change in opacity.

2.16 Conditioning Period. A period of time (168 hours minimum) during which the CEMS is operated without any unscheduled maintenance, repair, or adjustment prior to initiation of the operational test period.

2.17 Operational Test Period. A period of time (168 hours) during which the CEMS is expected to operate within the established performance specifications without any unscheduled maintenance, repair, or adjustment.

2.18 Path Length. The depth of effluent in the light beam between the receiver and the transmitter of a single-pass transmissometer, or the depth of effluent between the transceiver and reflector of a double-pass transmissometer. Two path lengths are referenced by this specification as follows:

2.18.1 Monitor Path Length. The path length (depth of effluent) at the installed location of the CEMS.

2.18.2 Emission Outlet Path Length. The path length (depth of effluent) at the location where emissions are released to the atmosphere. For noncircular outlets, $D[e] = (2LW) / (L + W)$, where L is the length of the outlet and W is the width of the outlet. Note that this definition does not apply to pressure baghouse outlets with multiple stacks, side discharge vents, ridge roof monitors, etc.

3. *Apparatus*

3.1 Opacity Continuous Emission Monitoring System. Any opacity CEMS that is expected to meet the design and performance specifications in Section 5 and a suitable data recorder, such as an analog strip chart recorder

or other suitable device (e.g., digital computer) with an input signal range compatible with the analyzer output.

3.2 Calibration Attenuators. Minimum of three. These attenuators must be optical filters or screens with neutral spectral characteristics selected and calibrated according to the procedures in Sections 7.1.2 and 7.1.3, and of sufficient size to attenuate the entire light beam received by the detector of the transmissometer.

3.3 Upscale Calibration Value Attenuator. An optical filter with neutral spectral characteristics, a screen, or other device that produces an opacity value (corrected for path length, if necessary) that is greater than or equal to the applicable opacity standard but less than or equal to one-half the applicable instrument span value.

3.4 Calibration Spectrophotometer. A laboratory spectrophotometer meeting the following minimum design specifications:

Parameter	Specification
Wavelength range	400-700 nm.
Detector angle of view	<10 degrees.
Accuracy	<0.5 percent transmittance, NBS traceable calibration.

4. *Installation Specifications*

Install the CEMS at a location where the opacity measurements are representative of the total emissions from the affected facility. These requirements can be met as follows:

4.1 Measurement Location. Select a measurement location that is (a) downstream from all particulate control equipment, (b) where condensed water vapor is not present, (c) free of interference from ambient light (applicable only if transmissometer is responsive to ambient light), and (d) accessible in order to permit routine maintenance. Accessibility is an important criterion because easy access for lens cleaning, alignment checks, calibration checks, and blower maintenance will help assure quality data.

4.2 Measurement Path. The primary concern in locating a transmissometer is determining a location of well-mixed stack gas. Two factors contribute to complete mixing of emission gases: turbulence and sufficient mixing time. The criteria listed below define conditions under which well-mixed emissions can be expected.

Select a measurement path that passes through a centroidal area equal to 25 percent of the cross section. Additional requirements or modifications must be met for certain locations as follows:

4.2.1 If the location is in a straight vertical section of stack or duct and is less than 4 equivalent diameters downstream from a bend, use a path that is in the plane defined by the upstream bend (see Figure 1-1).

4.2.2 If the location is in a straight vertical section of stack or duct and is less than 4 equivalent diameters upstream from a bend, use a path that is in the plane defined by the bend (see Figure 1-2).

Figure 1-1. Transmissometer location downstream of a bend in a vertical stack.

[SEE FIGURE IN ORIGINAL]

Figure 1-2. Transmissometer location upstream of a bend in a vertical stack.

[SEE FIGURE IN ORIGINAL]

4.2.3 If the location is in a straight vertical section of stack or duct and is less than 4 diameters downstream and is also less than 1 diameter upstream from a bend, use a path in the plane defined by the upstream bend (see Figure 1-3).

4.2.4 If the location is in a horizontal section of duct and is at least 4 diameters downstream from a vertical bend, use a path in the horizontal plane that is between one-third and one-half the distance up the vertical axis from the bottom of the duct (see Figure 1-4).

4.2.5 If the location is in a horizontal section of duct and is less than 4 diameters downstream from a vertical bend, use a path in the horizontal plane that is between one-half and two-thirds the distance up the vertical axis from the bottom of the duct for upward flow in the vertical section, and is between one-third and one-half the distance up the vertical axis from the bottom of the duct for downward flow (Figure 1-5).

4.3 Alternative Locations and Measurement Paths. Other locations and measurement paths may be selected by demonstrating to the Administrator that the average opacity measured at the alternative location or path is equivalent to the opacity as measured at a location meeting the criteria of Sections 4.1 and 4.2. The opacity at the alternative location is considered equivalent if the average value measured at the alternative location is within the range defined by the average measured opacity +/- 10 percent at the location meeting the installation criteria in Section 4.2, or if the difference between the two average opacity values is less than 2 percent opacity. To conduct this demonstration, measure the opacities at the two locations or paths for a minimum period of 2 hours and compare the results. The opacities of the two locations or paths may be measured at different times, but must be measured at the same process operating conditions. Alternative procedures for determining acceptable locations may be used if approved by the Administrator.

Figure 1-3. Transmissometer location between bends in a vertical stack.

[SEE FIGURE IN ORIGINAL]

Figure 1-4. Transmissometer location greater than four diameters downstream of a vertical bend in a horizontal stack.

[SEE FIGURE IN ORIGINAL]

Figure 1-5. Transmissometer location less than four diameters downstream of a vertical bend in a horizontal stack.

[SEE FIGURE IN ORIGINAL]

5. *Design and Performance Specifications*

5.1 Design Specifications. The CEMS for opacity shall comply with the following design specifications:

5.1.1 Peak and Mean Spectral Responses. The peak and mean spectral responses must occur between 500 nm and 600 nm. The response at any wavelength below 400 nm or above 700 nm shall be less than 10 percent of the peak spectral response.

5.1.2 Angle of View. The total angle of view shall be no greater than 5 degrees.

5.1.3 Angle of Projection. The total angle of projection shall be no greater than 5 degrees.

5.1.4 Optical Alignment Sight. Each analyzer must provide some method for visually determining that the instrument is optically aligned. The method provided must be capable of indicating that the unit is misaligned when an error of +2 percent opacity occurs due to misalignment at a monitor path length of 8 meters. Instruments that are capable of providing an absolute zero check while in operation on a stack or duct with effluent present, and while maintaining the same optical alignment during measurement and calibration, need not meet this requirement (e.g., some "zero pipe" units).

5.1.5 Simulated Zero and Upscale Calibration System. Each analyzer must include a calibration system for simulating a zero (or no greater than 10 percent) opacity and an upscale opacity value for the purpose of performing periodic checks of the transmissometer calibration while on an operating stack or duct. This calibration system will provide, as a minimum, a system check of the analyzer internal optics and all electronic circuitry including the lamp and photodetector assembly.

5.1.6 Access to External Optics. Each analyzer must provide a means of access to the optical surfaces exposed to the effluent stream in order to permit the surfaces to be cleaned without requiring removal of the unit from the source mounting or without requiring optical realignment of the unit.

5.1.7 Automatic Zero Compensation Indicator. If the CEMS has a feature that provides automatic zero compensation for dirt accumulation on exposed optical surfaces, the system must also provide some means of indicating when a compensation of 4 percent opacity has been exceeded. This indicator shall be at a location accessible to the operator (e.g., the data output terminal). During the operational test period, the system must provide some means (manual or automated) for determining the actual amount of zero compensation at the specified 24-hour intervals so that the actual 24-hour zero drift can be determined (see Section 7.4.1).

5.1.8 Slotted Tube. For transmissometers that use slotted tubes, the length of the slotted portion(s) must be equal to or greater than 90 percent of the effluent path length (distance between duct or stack walls). The slotted tube must be of sufficient size and orientation so as not to interfere with the free flow of effluent through the entire optical volume of the transmissometer photodetector. The manufacturer must also show that the transmissometer minimizes light reflections. As a minimum, this demonstration shall consist of laboratory operation of the transmissometer both with and without the slotted tube in position.

Should the operator desire to use a slotted tube design with a slotted portion equal to or less than 90 percent of the monitor path length, the operator must demonstrate to the Administrator that acceptable results can be obtained. As a minimum demonstration, the effluent opacity shall be measured using both the slotted tube instrument and another instrument meeting the requirement of this specification but not of the slotted tube design. The measurements must be made at the same location and at the same process operating conditions for a minimum period of 2 hours with each instrument. The shorter slotted tube may be used if the average opacity measured is equivalent to the opacity measured by the nonslotted tube design. The average opacity measured is equivalent if it is within the opacity range defined by the average opacity value +/- 10 percent measured by the nonslotted tube design, or if the difference between the average opacities is less than 2 percent opacity.

5.1.9 External Calibration Filter Access (optional). Provisions in the design of the transmissometer to accommodate an external calibration filter assembly are recommended. An adequate design would permit occasional use of external (i.e., not intrinsic to the instrument) neutral density filters to assess monitor operation.

5.2 Performance Specifications. The opacity CEMS specifications are listed in Table 1-1.

6. *Design Specifications Verification Procedure*

These procedures will not apply to all instrument designs and will require modification in some cases; all

procedural modifications are subject to the approval of the Administrator.

Test each analyzer for conformance with the design specifications of Sections 5.1.1-5.1.4, or obtain a certificate of conformance from the analyzer manufacturer as follows:

6.1 Spectral Response. Obtain detector response, lamp emissivity, and filter transmittance data for the components used in the measurement system from their respective manufacturers, and develop the effective spectral response curve of the transmissometer. Then determine and report the peak spectral response wavelength, the mean spectral response wavelength, and the maximum response at any wavelength below 400 nm and above 700 nm expressed as a percentage of the peak response.

Alternatively, conduct a laboratory measurement of the instrument's spectral response curve. The procedures of this laboratory evaluation are subject to approval of the Administrator.

TABLE 1-1 -- PERFORMANCE SPECIFICATIONS

Parameter	Specifications
1. Calibration error a	</= 3 percent opacity.
2. Response time	</= 10 seconds.
3. Conditioning period b	</= 168 hours.
4. Operational test period b	</= 168 hours.
5. Zero drift (24-hour) a	</= 2 percent opacity.
6. Calibration drift (24-hour) a	</= 2 percent opacity.
7. Data recorder resolution	</= 0.5 percent opacity.

a Expressed as the sum of the absolute value of the mean and the absolute value of the confidence coefficient.

b During the conditioning and operational test periods, the CEMS must not require any corrective maintenance, repair, replacement, or adjustment other than that clearly specified as routine and required in the operation and maintenance manuals.

6.2 Angle of View. Set up the receiver as specified by the manufacturer's written instructions. Draw an arc with radius of 3 meters in the horizontal direction. Using a small (less than 3 centimeters) nondirectional light source, measure the receiver response at 5-centimeter intervals on the arc for 30 centimeters on either side of the detector centerline. Repeat the test in the vertical direction. Then for both the horizontal and vertical directions, calculate the response of the receiver as a function of viewing angle (26 centimeters of arc with a radius of 3 meters equals 5 degrees), report relative angle of view curves, and determine and report the angle of view.

6.3 Angle of Projection. Set up the projector as specified by the manufacturer's written instructions. Draw an arc with a radius of 3 meters in the horizontal direction. Using a small (less than 3 centimeters) photoelectric light detector, measure the light intensity at 5-centimeter intervals on the arc for 30 centimeters on either side of the light source centerline of projection. Repeat the test in the vertical direction. Then for both the horizontal and vertical directions, calculate the response of the photoelectric detector as a function of the projection angle (26 centimeters of arc with a radius of 3 meters equals 5 degrees), report the relative angle of projection curves, and determine and report the angle of projection.

6.4 Optical Alignment Sight. In the laboratory set the instrument up as specified by the manufacturer's written instructions for a monitor path length of 8 meters. Align, zero, and span the instrument. Insert an attenuator of 10 percent (nominal opacity) into the instrument path length. Slowly misalign the projector unit by rotating it until a positive or negative shift of 2 percent opacity is obtained by the data recorder. Then, following the manufacturer's written instructions, check the alignment. The alignment procedure must indicate that the instrument is misaligned. Repeat this test for lateral misalignment of the projector. Realign the instrument and follow the same procedure for checking misalignment of the receiver or retroreflector unit (lateral misalignment only).

6.5 Manufacturer's Certificate of Conformance (alternative to above). Obtain from the manufacturer a certificate of conformance stating that the first analyzer randomly sampled from each month's production was tested according to Sections 6.1 through 6.4 and satisfactorily met all requirements of Section 5 of this specification. If any of the requirements were not met, the certificate must state that the entire month's analyzer production was resampled according to the military standard 105D sampling procedure (MIL-STD-105D) inspection level II; was retested for each of the applicable requirements under Section 5 of this specification; and was determined to be acceptable under (MIL-STD-105D) procedures, acceptable quality level 1.0. The certificate of conformance must include the results of each test performed for the analyzer(s) sampled during the month the analyzer being installed was produced.

7. *Performance Specification Verification Procedure*

Test each CEMS that conforms to the design specifications (Section 5.1) using the following procedures to determine conformance with the specifications of Table 1-1. These tests are to be performed using the data recording system to be employed during monitoring. Prior approval from the Administrator is required if different data recording systems are used during the performance test and monitoring.

7.1 Preliminary Adjustments and Tests. Before installing the system on the stack, perform these steps or tests at the affected facility or in the manufacturer's laboratory.

7.1.1 Equipment Preparation. Set up and calibrate the CEMS for the monitor path length to be used in the installation as specified by the manufacturer's written instructions. For this specification, the mounting distance between the transmitter and receiver/reflector unit at the source must be measured prior to performing the calibrations (do not use distances from engineering drawings). If the CEMS has automatic path length adjustment, follow the manufacturer's instructions to adjust the signal output from the analyzer in order to yield results based on the emission outlet path length. Set the instrument and data recording system ranges so that maximum instrument output is within the span range specified in the applicable subpart.

Align the instrument so that maximum system response is obtained during a zero (or upscale) check performed across the simulated monitor path length. As part of this alignment, include rotating the reflector unit (detector unit for single pass instruments) on its axis until the point of maximum instrument response is obtained.

Follow the manufacturer's instructions to zero and span the instrument. Perform the zero alignment adjustment by balancing the response of the CEMS so that the simulated zero check coincides with the actual zero check performed across the simulated monitor path length. At this time, measure and record the indicated upscale calibration value. The calibration value reading must be within the required opacity range (Section 3.3).

7.1.2 Calibration Attenuator Selection. Based on the span value specified in the applicable subpart, select a minimum of three calibration attenuators (low, mid, and high range) using Table 1-2.

If the system is operating with automatic path length compensation, calculate the attenuator values required to obtain a system response equivalent to the applicable values shown in Table 1-2; use Equation 1-1 for the

conversion. A series of filters with nominal optical density (opacity) values of 0.1(20), 0.2(37), 0.3(50), 0.4(60), 0.5(68), 0.6(75), 0.7(80), 0.8(84), 0.9(88), and 1.0(90) are commercially available. Within this limitation of filter availability, select the calibration attenuators having the values given in Table 1-2 or having values closest to those calculated by Equation 1-1.

D[1] = D[2] X (L[1] / L[2])

Eq. 1-1

Table 1-2 -- REQUIRED CALIBRATION ATTENUATOR VALUES (NOMINAL)

Span value (percent opacity)	Calibrated attenuator optical density (equivalent opacity in parenthesis) -- D[2]			
	Low-range	Mid-range		High-range
40	0.05 (11)	0.1 (20)		0.2 (37)
50	0.1 (20)	0.2 (37)		0.3 (50)
60	0.1 (20)	0.2 (37)		0.3 (50)
70	0.1 (20)	0.3 (50)	0.4 (60)	
80	0.1 (20)	0.3 (50)	0.6 (75)	
90	0.1 (20)	0.4 (60)	0.7 (80)	
100	0.1 (20)	0.4 (60)	0.9 (87.5)	

Where:

D[1] = Nominal optical density value of required mid, low, or high range calibration attenuators.

D[2] = Desired attenuator optical density output value from Table 1-2 at the span required by the applicable subpart.

L[1] = Monitor path length.

L[2] = Emission outlet path length.

7.1.3 Attenuator Calibration. Select a laboratory calibration spectrophotometer meeting the specifications of Section 3.4. Using this calibration spectrophotometer, calibrate the required filters or screens. Make measurements at wavelength intervals of 20 nm or less. As an alternative procedure, use the calibration spectrophotometer to measure the C.I.E. Daylight[c] luminous transmittance of the attenuators. Check the attenuators several times, at different locations on the attenuator.

The attenuator manufacturer must specify the period of time over which the attenuator values can be considered stable, as well as any special handling and storing procedures required to enhance attenuator stability. To assure stability, recheck attenuator values at intervals less than or equal to the period stability guaranteed by the manufacturer. Recheck at least every 3 months. If desired, perform the stability checks with an instrument (secondary) other than the calibration spectrophotometer. This secondary instrument must be a high-quality laboratory transmissometer or spectrophotometer, and the same instrument must always be used for the stability

checks. If a secondary instrument is to be used for stability checks, the value of the calibrated attenuator must be measured on this secondary instrument immediately following initial calibration. If over a period of time an attenuator value changes by more than +/- 2 percent opacity, recalibrate the attenuator on the calibration spectrophotometer or replace it with a new attenuator.

If this procedure is conducted by the filter or screen manufacturer or by an independent laboratory, obtain a statement certifying the values and certifying that the specified procedure, or equivalent, is used.

7.1.4 Calibration Error Test. Insert the calibration attenuators (low, mid, and high range) in the transmissometer path at or as near the midpoint of the path as feasible. Place the attenuator in the measurement path at a point where the effluent will be measured; i.e., do not place the calibration attenuator in the instrument housing. If the instrument manufacturer recommends a procedure wherein the attenuators are placed in the instrument housing, the manufacturer must provide data showing this alternative procedure is acceptable. While inserting the attenuator, assure that the entire beam received by the detector will pass through the attenuator and that the attenuator is inserted in a manner which minimizes interference from reflected light. Make a total of five nonconsecutive readings for each filter. Record the monitoring system output readings in percent opacity (see example Figure 1-6). Then, if the path length is not adjusted by the measurement system, subtract the actual calibration attenuator value from the value indicated by the measurement system recorder for each of the 15 readings obtained. If the path length is adjusted by the measurement system, subtract the "path adjusted" calibration attenuator values from the values indicated by the measurement system recorder (the "path adjusted" calibration attenuator values are calculated using Equation 1-6 or 1-7). Calculate the arithmetic mean difference, standard deviation, and confidence coefficient of the five tests at each attenuator value using Equations 1-2, 1-3, and 1-4 (Sections 8.1-8.3). Calculate the sum of the absolute value of the mean difference and the absolute value of the confidence coefficient for each of the three test attenuators; report these three values as the calibration error.

Figure 1-6. Calibration error determination.

[SEE FIGURE IN ORIGINAL]

7.1.5 System Response Test. Insert the high-range calibration attenuator in the transmissometer path five times, and record the time required for the system to respond to 95 percent of final zero and high-range filter values (see example Figure 1-7). Then calculate the mean time of the 10 upscale and downscale tests and report this value as the system response time.

Figure 1-7. Response time determination.

[SEE FIGURE IN ORIGINAL]

7.2 Preliminary Field Adjustments. Install the CEMS on the affected facility according to the manufacturer's written instructions and the specifications in Section 4, and perform the following preliminary adjustments:

7.2.1 Optical and Zero Alignment. When the facility is not in operation, optically align the light beam of the transmissometer upon the optical surface located across the duct or stack (i.e., the retroreflector or photodetector, as applicable) in accordance with the manufacturer's instructions; verify the alignment with the optical alignment sight. Under clear stack conditions, verify the zero alignment (performed in Section 7.1.1) by assuring that the monitoring system response for the simulated zero check coincides with the actual zero measured by the transmissometer across the clear stack. Adjust the zero alignment, if necessary. Then, after the affected facility has been started up and the effluent stream reaches normal operating temperature, recheck the optical alignment. If the optical alignment has shifted, realign the optics. Note: Careful consideration should be given to whether a "clear stack" condition exists. It is suggested that the stack be monitored and the data output (instantaneous real-time basis) be examined to determine whether fluctuations from zero opacity are occurring

before a clear stack condition is assumed to exist.

7.2.2 Optical and Zero Alignment (Alternative Procedure). The procedure given in 7.2.1 is the preferred procedure and should be used whenever possible; however, if the facility is operating and a zero stack condition cannot practicably be obtained, use the zero alignment obtained during the preliminary adjustments (Section 7.1.1) before installing the transmissometer on the stack. After completing all the preliminary adjustments and tests required in Section 7.1, install the system at the source and align the optics, i.e., align the light beam from the transmissometer upon the optical surface located across the duct or stack in accordance with the manufacturer's instruction. Verify the alignment with the optical alignment sight. The zero alignment conducted in this manner must be verified and adjusted, if necessary, the first time a clear stack condition is obtained after the operation test period has been completed.

7.3 Conditioning Period. After completing the preliminary field adjustments (Section 7.2), operate the CEMS according to the manufacturer's instructions for an initial conditioning period of not less than 168 hours while the source is operating. Except during times of instrument zero and upscale calibration checks, the CEMS must analyze the effluent gas for opacity and produce a permanent record of the CEMS output. During this conditioning period there must be no unscheduled maintenance, repair, or adjustment. Conduct daily zero calibration and upscale calibration checks; and, when accumulated drift exceeds the daily operating limits, make adjustments and clean the exposed optical surfaces. The data recorder must reflect these checks and adjustments. At the end of the operational test period, verify that the instrument optical alignment is correct. If the conditioning period is interrupted because of source breakdown (record the dates and times of process shutdown), continue the 168-hour period following resumption of source operation. If the conditioning period is interrupted because of monitor failure, restart the 168-hour conditioning period when the monitor becomes operational.

7.4 Operational Test Period. After completing the conditioning period, operate the system for an additional 168-hour period. The 168-hour operational test period need not follow immediately after the 168-hour conditioning period. Except during times of instrument zero and upscale calibration checks, the CEMS must analyze the effluent gas for opacity and must produce a permanent record of the CEMS output. During this period, there will be no unscheduled maintenance, repair, or adjustment. Zero and calibration adjustments, optical surface cleaning, and optical realignment may be performed (optional) only at 24-hour intervals or at such shorter intervals as the manufacturer's written instructions specify. Automatic zero and calibration adjustments made by the CEMS without operator intervention or initiation are allowable at any time. During the operational test period, record all adjustments, realignments, and lens cleanings. If the operational test period is interrupted because of source breakdown, continue the 168-hour period following resumption of source operation. If the test period is interrupted because of monitor failure, restart the 168-hour period when the monitor becomes operational. During the operational test period, perform the following test procedures:

7.4.1. Zero Drift Test. At the outset of the 168-hour operational test period, record the initial simulated zero (or no greater than 10 percent) and upscale opacity readings (see example Figure 1-8). After each 24-hour interval, check and record the final zero reading before any optional or required cleaning and adjustment. Zero and upscale calibration adjustments, optical surface cleaning, and optical realignment may be performed only at 24-hour intervals (or at such shorter intervals as the manufacturer's written instructions specify), but are optional. However, adjustments and cleaning must be performed when the accumulated zero calibration or upscale calibration drift exceeds the 24-hour drift specification (+/- 2 percent opacity). If no adjustments are made after the zero check, record the final zero reading as the initial zero reading for the next 24-hour period. If adjustments are made, record the zero value after adjustment as the initial zero value for the next 24-hour period. If the instrument has an automatic zero compensation feature for dirt accumulation on exposed lenses and the zero value cannot be measured before compensation is entered, then record the amount of automatic zero compensation (as opacity) for the final zero reading of each 24-hour period. (List the indicated zero values of the CEMS in parenthesis.) From the initial and final zero readings, calculate the zero drift for each 24-hour period. Then calculate the arithmetic mean, standard deviation, and confidence coefficient of the 24-hour zero

drift and the 95 percent confidence interval using Equations 1-2, 1-3, and 1-4. Calculate the sum of the absolute value of the mean and the absolute value of the confidence coefficient, and report this value as the 24-hour zero drift.

Figure 1-8. Zero calibration drift determination.

[SEE FIGURE IN ORIGINAL]

7.4.2 Upscale Drift Test. At each 24-hour interval, after the zero calibration value has been checked and any optional or required adjustments have been made, check and record the simulated upscale calibration value. If no further adjustments are made to the calibration system at this time, record the final upscale calibration value as the initial upscale value for the next 24-hour period. If an instrument span adjustment is made, record the upscale value after adjustment as the initial upscale value for the next 24-hour period. From the initial and final upscale readings, calculate the upscale calibration drift for each 24-hour period. Then calculate the arithmetic mean, standard deviation, and confidence coefficient of the 24-hour calibration drift and the 95 percent confidence interval using Equations 1-2, 1-3, and 1-4. Calculate the sum of the absolute value of the mean and the absolute value of the confidence coefficient, and report this value as the 24-hour calibration drift.

8. *Equations*

8.1 Arithmetic Mean. Calculate the mean, x, of a set of data as follows:

x = 1 / n <n> SIGMA [i = 1] x[1]

(Eq. 1-2)

where:

n = Number of data points.

n

SIGMA x[i] = Algebraic sum of the individual measurements x[i].

i = 1

8.2 Standard Deviation. Calculate the standard deviation S[d] as follows:

S[d] = root <n> SIGMA [i = 1] x[i]<2> - (<n> SIGMA [i = 1] x[1])<2> / n / n - 1

(Eq. 1-3)

8.3 Confidence Coefficient. Calculate the 2.5 percent error confidence coefficient (one-tailed), CC, as follows:

CC = t[0.975] S[d] / root n

Eq. 1-4

Where:

<t>0.975 = t-value (see Table 1-3).

8.4 Error. Calculate the error (i.e., calibration error, zero drift, and calibration drift), Er, as follows:

Er = @x@ + @CC@

(Eq. 1-5)

TABLE 1-3 -- t-VALUES

n[a]	<t>0.975	n<a>	<t>0.975	n<a>	<t>0.975
2	12.706	7	2.447	12	2.201
3	4.303	8	2.365	13	2.179
4	3.182	9	2.306	14	2.160
5	2.776	10	2.262	15	2.145
6	2.571	11	2.228	16	2.131

a The values in this table are already corrected for n-1 degrees of freedom. Use n equal to the number of individual values.

8.5 Conversion of Opacity Values from Monitor Path Length to Emission Outlet Path Length. When the monitor path length is different than the emission outlet path length, use either of the following equations to convert from one basis to the other (this conversion may be automatically calculated by the monitoring system):

log(1-Op[2]) = (L[2] / L[1]) log (1-Op[1])

(Eq. 1-6)

D[2] = (L[2] / L[1]) D[1]

(Eq. 1-7)

Where:

Op[1] = Opacity of the effluent based upon L[1].

Op[2] = Opacity of the effluent based upon L[2].

L[1] = Monitor path length.

L[2] = Emission outlet path length.

D[1] = Optical density of the effluent based upon L[1].

D[2] = Optical density of the effluent based upon L[2].

9. *Reporting*

Report the following (summarize in tabular form where appropriate).

9.1 General Information.

a. Facility being monitored.

b. Person(s) responsible for operational and conditioning test periods and affiliation.

c. Instrument manufacturer.

d. Instrument model number

e. Instrument serial number.

f. Month/year manufactured.

g. Schematic of monitoring system measurement path location.

h. Monitor pathlength, meters.

i. Emission outlet pathlength, meters.

j. System span value, percent opacity.

k. Upscale calibration value, percent opacity.

l. Calibrated Attenuator values (low, mid, and high range), percent opacity.

9.2 Design Specification Test Results.

a. Peak spectral response, nm.

b. Mean spectral response, nm.

c. Response above 700 nm, percent of peak.

d. Response below 400 nm, percent of peak.

e. Total angle of view, degrees.

f. Total angle of projection, degrees.

g. Results of optical alignment sight test.

h. Serial number, month/year of manufacturer for unit actually tested to show design conformance.

9.3 Performance Specification Test Results.

a. Calibration error, high-range, percent opacity.

b. Calibration error, mid-range, percent opacity.

c. Calibration error, low-range, percent opacity.

d. Response time, seconds.

e. 24-hour zero drift, percent opacity.

f. 24-hour calibration drift, percent opacity.

g. Lens cleanings, clock time.

h. Optical alignment adjustments, clock time.

9.4 Statements. Provide a statement that the conditioning and operational test periods were completed according to the requirements of Sections 7.3 and 7.4. In this statement, include the time periods during which the conditioning and operational test periods were conducted.

9.5 Appendix. Provide the data tabulations and calculations for the above tabulated results.

10. *Retest*

If the CEMS operates within the specified performance parameters of Table 1-1, the PS tests will be successfully concluded. If the CEMS fails one of the preliminary tests, make the necessary corrections and repeat the performance testing for the failed specification prior to conducting the operational test period. If the CEMS fails to meet the specifications for the operational test period, make the necessary corrections and repeat the operational test period; depending on the correction made, it may be necessary to repeat the design and preliminary performance tests.

11. *Bibliography*

1. Experimental Statistics. Department of Commerce. National Bureau of Standards Handbook 91. Paragraph 3-3.1.4 1963. pp. 3-31.

12. Performance Specifications for Stationary-Source Monitoring Systems for Gases and Visible Emissions. U.S. Environmental Protection Agency. Research Triangle Park, NC. EPA-650/2-74-013. January 1974.

PERFORMANCE SPECIFICATION 2 -- SPECIFICATIONS AND TEST PROCEDURES FOR SO[2] AND NO[x] CONTINUOUS EMISSION MONITORING SYSTEMS IN STATIONARY SOURCES

1. *Applicability and Principle*

1.1 Applicability. This specification is to be used for evaluating the acceptability of SO[2] and NO[x] continuous emission monitoring systems (CEMS's) at the time of or soon after installation and whenever specified in the regulations. The CEMS may include, for certain stationary sources, a diluent (O[2] or CO[2]) monitor.

This specification is not designed to evaluate the installed CEMS performance over an extended period of time nor does it identify specific calibration techniques and other auxiliary procedures to assess the CEMS performance. The source owner or operator, however, is responsible to properly calibrate, maintain, and operate the CEMS. To evaluate the CEMS performance, the Administrator may require, under Section 114 of the Act, the operator to conduct CEMS performance evaluations at other times besides the initial test. See § 60.13(c).

1.2 Principle. Installation and measurement location specifications, performance and equipment specifications, test procedures, and data reduction procedures are included in this specification. Reference method tests and calibration drift tests are conducted to determined conformance of the CEMS with the specification.

2. *Definitions*

2.1 Continuous Emission Monitoring System. The total equipment required for the determination of a gas concentration or emission rate. The system consists of the following major subsystems:

2.1.1 Sample Interface. That portion of the CEMS used for one or more of the following: sample acquisition, sample transportation, and sample conditioning, or protection of the monitor from the effects of the stack effluent.

2.1.2 Pollutant Analyzer. That portion of the CEMS that senses the pollutant gas and generates an output proportional to the gas concentration.

2.1.3 Diluent Analyzer (if applicable). That portion of the CEMS that senses the diluent gas (e.g., CO_2 or O_2) and generates an output proportional to the gas concentration.

2.1.4 Data Recorder. That portion of the CEMS that provides a permanent record of the analyzer output. The data recorder may include automatic data reduction capabilities.

2.2 Point CEMS. A CEMS that measures the gas concentration either at a single point or along a path equal to or less than 10 percent of the equivalent diameter of the stack or duct cross section.

2.3 Path CEMS. A CEMS that measures the gas concentration along a path greater than 10 percent of the equivalent diameter of the stack or duct cross section.

2.4 Span Value. The upper limit of a gas concentration measurement range specified for affected source categories in the applicable subpart of the regulations.

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

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

2.7 Centroidal Area. A concentric area that is geometrically similar to the stack or duct cross section and is no greater than 1 percent of the stack or duct cross-sectional area.

2.8 Representative Results. As defined by the RM test procedure outlined in this specification.

3. *Installation and Measurement Location Specifications*

3.1 The CEMS Installation and Measurement Location. Install the CEMS at an accessible location where the pollutant concentration or emission rate measurements are directly representative or can be corrected so as to be representative of the total emissions from the affected facility or at the measurement location cross section. Then select representative measurement points or paths for monitoring in locations that the CEMS will pass the RA test (see Section 7). If the cause of failure to meet the RA test is determined to be the measurement location and a satisfactory correction technique cannot be established, the Administrator may require the CEMS to be relocated.

Suggested measurement locations and points or paths that are most likely to provide data that will meet the RA requirements are listed below.

3.1.1 Measurement Location. It is suggested that the measurement location be (1) at least two equivalent diameters downstream from the nearest control device, the point of pollutant generation, or other point at which a change in the pollutant concentration or emission rate may occur and (2) at least a half equivalent diameter upstream from the effluent exhaust or control device.

3.1.2. Point CEMS. It is suggested that the measurement point be (1) no less than 1.0 meter from the stack or duct wall or (2) within or centrally located over the centroidal area of the stack or duct cross section.

3.1.3 Path CEMS. It is suggested that the effective measurement path (1) be totally within the inner area bounded by a line 1.0 meter from the stack or duct wall, or (2) have at least 70 percent of the path within the inner 50 percent of the stack or duct cross-sectional area, or (3) be centrally located over any part of the centroidal area.

3.2 Reference Method (RM) Measurement Location and Traverse Points. Select, as appropriate, an accessible RM measurement point at least two equivalent diameters downstream from the nearest control device, the point of pollutant generation, or other point at which a change in the pollutant concentration or emission rate may occur, and at least a half equivalent diameter upstream from the effluent exhaust or control device. When pollutant concentration changes are due solely to diluent leakage (e.g., air heater leakages) and pollutants and diluents are simultaneously measured at the same location, a half diameter may be used in lieu of two equivalent diameters. The CEMS and RM locations need not be the same.

Then select traverse points that assure acquisition of representative samples over the stack or duct cross section. The minimum requirements are as follows: Establish a "measurement line" that passes through the centroidal area and in the direction of any expected stratification. If this line interferes with the CEMS measurements, displace the line up to 30 cm (or 5 percent of the equivalent diameter of the cross section, whichever is less) from the centroidal area. Locate three traverse points at 16.7, 50.0, and 83.3 percent of the measurement line. If the measurement line is longer than 2.4 meters and pollutant stratification is not expected, the tester may choose to locate the three traverse points on the line at 0.4, 1.2, and 2.0 meters from the stack or duct wall. This option must not be used after wet scrubbers or at points where two streams with different pollutant concentrations are combined. The tester may select other traverse points, provided that they can be shown to the satisfaction of the Administrator to provide a representative sample over the stack or duct cross section. Conduct all necessary RM tests within 3 cm (but no less than 3 cm from the stack or duct wall) of the traverse points.

4. *Performance and Equipment Specifications*

4.1 Data Recorder Scale. The CEMS data recorder response range must include zero and a high-level value. The high-level value is chosen by the source owner or operator and is defined as follows:

For a CEMS intended to measure an uncontrolled emission (e.g., SO[2] measurements at the inlet of a flue gas desulfurization unit), the high-level value must be between 1.25 and 2 times the average potential emission level, unless otherwise specified in an applicable subpart of the regulations. For a CEMS installed to measure controlled emissions or emissions that are in compliance with an applicable regulation, the high-level value must be between 1.5 times the pollutant concentration corresponding to the emission standard level and the span value. If a lower high-level value is used, the source must have the capability of measuring emissions which exceed the full-scale limit of the CEMS in accordance with the requirements of applicable regulations.

The data recorder output must be established so that the high-level value is read between 90 and 100 percent of the data recorder full scale. (This scale requirement may not be applicable to digital data recorders.) The calibration gas, optical filter, or cell values used to establish the data recorder scale should produce the zero and high-level values. Alternatively, a calibration gas, optical filter, or cell value between 50 and 100 percent of the high-level value may be used in place of the high-level value provided the data recorder full-scale requirements as described above are met.

The CEMS design must also allow the determination of calibration drift at the zero and high-level values. If this is not possible or practical, the design must allow these determinations to be conducted at a low-level value (zero to 20 percent of the high-level value) and at a value between 50 and 100 percent of the high-level value. In special cases, if not already approved, the Administrator may approve a single-point calibration-drift determination.

4.2 Calibration Drift. The CEMS calibration must not drift or deviate from the reference value of the gas cylinder, gas cell, or optical filter by more than 2.5 percent of the span value. If the CEMS includes pollutant and diluent monitors, the calibration drift must be determined separately for each in terms of concentrations (see PS 3 for the diluent specifications).

4.3 The CEMS RA. The RA of the CEMS must be no greater than 20 percent of the mean value of the RM test data in terms of the units of the emission standard or 10 percent of the applicable standard, whichever is greater. For SO[2] emission standards between 130 and 86 ng/J (0.30 and 0.20 lb/million Btu), use 15 percent of the applicable standard; below 86 ng/J (0.20 lb/million Btu), use 20 percent of emission standard.

Performance Specification Test Procedure

5.1 Pretest Preparation. Install the CEMS, prepare the RM test site according to the specifications in Section 3, and prepare the CEMS for operation according to the manufacturer's written instructions.

5.2 Calibration Drift Test Period. While the affected facility is operating at more than 50 percent of normal load, or as specified in an applicable subpart, determine the magnitude of the calibration drift (CD) once each day (at 24-hour intervals) for 7 consecutive days according to the procedure given in Section 6. To meet the requirement of Section 4.2, none of the CD's must exceed the specification.

5.3 RA Test Period. Conduct the RA test according to the procedure given in Section 7 while the affected facility is operating at more than 50 percent or normal load, or as specified in an applicable subpart. To meet the specifications, the RA must be equal to or less than 20 percent of the mean value of the RM test data in terms of the units of the emission standard or 10 percent of the applicable standard, whichever is greater. For instruments that use common components to measure more than one effluent gas constituent, all channels must simultaneously pass the RA requirement, unless it can be demonstrated that any adjustments made to one channel did not affect the others.

The RA test may be conducted during the CD test period.

6. *The CEMS Calibration Drift Test Procedure*

The CD measurement is to verify the ability of the CEMS to conform to the established CEMS calibration used for determining the emission concentration or emission rate. Therefore, if periodic automatic or manual adjustments are made to the CEMS zero and calibration settings, conduct the CD test immediately before these adjustments, or conduct it in such a way that the CD can be determined.

Conduct the CD test at the two points specified in Section 4.1. Introduce to the CEMS the reference gases, gas cells, or optical filters (these need not be certified). Record the CEMS response and subtract this value from the reference value (see example data sheet in Figure 2-1).

7. *Relative Accuracy Test Procedure*

7.1 Sampling Strategy for RM Tests. Conduct the RM tests in such a way that they will yield results representative of the emissions from the source and can be correlated to the CEMS data. Although it is

preferable to conduct the diluent (if applicable), moisture (if needed), and pollutant measurements simultaneously, the diluent and moisture measurements that are taken within a 30- to 60-minute period, which includes the pollutant measurements, may be used to calculate dry pollutant concentration and emission rate.

In order to correlate the CEMS and RM data properly, mark the beginning and end of each RM test period of each run (including the exact time of the day) on the CEMS chart recordings or other permanent record of output. Use the following strategies for the RM tests:

7.1.1 For integrated samples, e.g., Method 6 and Method 4, make a sample traverse of at least 21 minutes, sampling for 7 minutes at each traverse point.

7.1.2 For grab samples, e.g., Method 7, take one sample at each traverse point, scheduling the grab samples so that they are taken simultaneously (within a 3-minute period) or are an equal interval of time apart over a 21-minute (or less) period. A test run for grab samples must be made up of at least three separate measurements.

NOTE: At times, CEMS RA tests are conducted during new source performance standards performance tests. In these cases, RM results obtained during CEMS RA tests may be used to determine compliance as long as the source and test conditions are consistent with the applicable regulations.

7.2 Correlation of RM and CEMS Data. Correlate the CEMS and the RM test data as to the time and duration by first determining from the CEMS final output (the one used for reporting) the integrated average pollutant concentration or emission rate for each pollutant RM test period. Consider system response time, if important, and confirm that the pair of results are on a consistent moisture, temperature, and diluent concentration basis. Then, compare each integrated CEMS value against the corresponding average RM value. Use the following guidelines to make these comparisons.

7.2.1 If the RM has an integrated sampling technique make a direct comparison of the RM results and CEMS integrated average value.

7.2.2 If the RM has a grab sampling technique, first average the results from all grab samples taken during the test run and then compare this average value against the integrated value obtained from the CEMS chart recording or output during the run. If the pollutant concentration is varying with time over the run, the tester may choose to use the arithmetic average of the CEMS value recorded at the time of each grab sample.

7.3 Number of RM Tests. Conduct a minimum of nine sets of all necessary RM tests. Conduct each set within a period of 30 to 60 minutes.

NOTE: The tester may choose to perform more than nine sets of RM tests. If this option is chosen, the tester may, at his discretion, reject a maximum of three sets of the test results so long as the total number of test results used to determine the RA is greater than or equal to nine, but he must report all data including the rejected data.

7.4 Reference Methods. Unless otherwise specified in an applicable subpart of the regulations, Methods 3B, 4, 6, and 7, or their approved alternatives, are the reference methods for diluent (O_2 and CO_2), moisture, SO_2, and NO_x, respectively.

7.5 Calculations. Summarize the results on a data sheet. An example is shown in Figure 2-2. Calculate the mean of the RM values. Calculate the arithmetic differences between the RM and the CEMS output sets. Then calculate the mean of the difference, standard deviation, confidence coefficient, and CEMS RA, using Equations 2-1, 2-2, 2-3, and 2-4.

8. *Equations*

8.1 Arithmetic Mean. Calculate the arithmetic mean of the difference, d, of a data set as follows:

/ d = 1 / n <n> SIGMA [i = 1] d[i]

(Eq. 2-1)

Where:

n = Number of data points.

<n> SIGMA [i = 1] d[i] = Algebraic sum of the individual differences d[1].

When the mean of the differences of pairs of data is calculated, be sure to correct the data for moisture, if applicable.

8.2 Standard Deviation. Calculate the standard deviation, S[d], as follows:

S[d] = (<n> SIGMA [i = 1] X d[i])<2> X <n> SIGMA [i = 1] X d[1]<2> / n / n - 1]<1/2>

(Eq. 2-2)

8.3 Confidence Coefficient. Calculate the 2.5 percent error confidence coefficient (one-tailed), CC, as follows:

CC = t[0.975] X S[d] / root n

Eq. 2-3

Where:

t[0.975] = t-value (see Table 2-1)

TABLE 2-1 -- t-VALUES

n<a>	t[0.975]	n<a>	t[0.975]	n<a>	t[0.975]
2	12.706	7	2.447	12	2.201
3	4.303	8	2.365	13	2.179
4	3.182	9	2.306	14	2.160
5	2.776	10	2.262	15	2.145
6	2.571	11	2.228	16	2.131

a The values in this table are already corrected for n-1 degrees of freedom. Use n equal to the number of individual values.

8.4 Relative Accuracy. Calculate the RA of a set of data as follows:

RA = @d@ + @CC@ / RM X 100

(Eq.2-4)

Where:

@d@ = Absolute value of the mean of differences (from Equation 2-1).

@CC@ = Absolute value of the confidence coefficient (from Equation 2-3).

RM = Average RM value or applicable standard.

9. *Reporting*

At a minimum (check with the appropriate regional office, or State, or local agency for additional requirements, if any) summarize in tabular form the results of the CD tests and the relative accuracy tests or alternative RA procedure as appropriate. Include all data sheets, calculations, charts (records of CEMS responses), cylinder gas concentration certifications, and calibration cell response certifications (if applicable), necessary to substantiate that the performance of the CEMS met the performance specifications.

10. *Alternative Procedures*

10.1 Alternative to Relative Accuracy Procedure in section 7. Paragraphs 60.13(j)(1) and (2) contain criteria for which the reference method relative accuracy may be waived and the following procedure substituted.

10.1.1 Conduct a complete CEMS status check following the manufacturer's written instructions. The check should include operation of the light source, signal receiver, timing mechanism functions, data acquisition and data reduction functions, data recorders, mechanically operated functions (mirror movements, zero pipe operation, calibration gas valve operations, etc.), sample filters, sample line heaters, moisture traps, and other related functions of the CEMS, as applicable. All parts of the CEMS shall be functioning properly before proceeding to the alternative RA procedure.

10.1.2 Challenge each monitor (both pollutant and diluent, if applicable) with cylinder gases of known concentrations or calibration cells that produce known responses at two measurement points within the following ranges:

MEASUREMENT RANGE

Measurement point	Pollutant monitor	Diluent monitor for CO[2]	O[2]
1	20-30 percent of span value	5-8 percent by volume	4-6 percent by volume
2	50-60 percent of span value.	10-14 percent by volume.	8-12 percent by volume

Use a separate cylinder gas or calibration cell for measurement points 1 and 2. Challenge the CEMS and record

the responses three times at each measurement point. Do not dilute gas from a cylinder when challenging the CEMS. Use the average of the three responses in determining relative accuracy.

Operate each monitor in its normal sampling mode as nearly as possible. When using cylinder gases, pass the cylinder gas through all filters, scrubbers, conditioners, and other monitor components used during normal sampling and as much of the sampling probe as practical. When using calibration cells, the CEMS components used in the normal sampling mode should not be by-passed during the RA determination. These include light sources, lenses, detectors, and reference cells. The CEMS should be challenged at each measurement point for a sufficient period of time to assure adsorption-desorption reactions on the CEMS surfaces have stabilized.

Use cylinder gases that have been certified by comparison to National Bureau of Standards (NBS) gaseous standard reference material (SRM) or NBS/EPA-approved gas manufacturer's certified reference material (CRM) (See Citation 2 in the Bibliography) following EPA traceability protocol Number 1 (See Citation 3 in the Bibliography). As an alternative to protocol Number 1 gases, CRM's may be used directly as alternative RA cylinder gases. A list of gas manufacturers that have prepared approved CRM's is available from EPA at the address shown in Citation 2. Procedures for preparation of CRM are described in Citation 2.

Use calibration cells certified by the manufacturer to produce a known response in the CEMS. The cell certification procedure shall include determination of CEMS response produced by the calibration cell in direct comparison with measurement of gases of known concentration. This can be accomplished using SRM or CRM gases in a laboratory source simulator or through extended tests using reference methods at the CEMS location in the exhaust stack. These procedures are discussed in Citation 4 in the Bibliography. The calibration cell certification procedure is subject to approval of the Administrator.

10.1.3 The differences between the known concentrations of the cylinder gases and the concentrations indicated by the CEMS are used to assess the accuracy of the CEMS.

The calculations and limits of acceptable relative accuracy (RA) are as follows:

(a) For pollutant CEMS:

RA = @d / AC X 100@ </= 15 percent

Where:

d = Difference between response and the known concentration/response.

AC = The known concentration/response of the cylinder gas or calibration cell.

(b) For diluent CEMS:

RA=@d@ </= 0.7 percent O[2] or CO[2], as applicable.

NOTE;; Waiver of the relative accuracy test in favor of the alternative RA procedure does not preclude the requirements to complete the calibration drift (CD) tests nor any other requirements specified in the applicable regulation(s) for reporting CEMS data and performing CEMS drift checks or audits.

Figure 2-1. Calibration drift determination.

[SEE FIGURE IN ORIGINAL]

Figure 2-2. Relative accuracy determination.

[SEE FIGURE IN ORIGINAL]

11. *Bibliography*

1. Department of Commerce. Experimental Statistics. Handbook 91. Washington, DC, p. 3-31, paragraphs 3-3.1.4.

2. "A Procedure for Establishing Traceability of Gas Mixtures to Certain National Bureau of Standards Standard Reference Materials." Joint publication by NBS and EPA. EPA-600/7-81-010. Available from U.S. Environmental Protection Agency, Quality Assurance Division (MD-77), Research Triangle Park, NC 27711.

3. "Traceability Protocol for Establishing True Concentrations of Gases Used for Calibration and Audits of Continuous Source Emission Monitors. (Protocol Number 1)." June 1978. Protocol Number 1 is included in the *Quality Assurance Handbook for Air Pollution Measurement Systems, Volume III, Stationary Source Specific Methods.* EPA-600/4-77-027b. August 1977. Volume III is available from the U.S. EPA, Office of Research and Development Publications, 26 West St. Clair Street, Cincinnati, OH 45268.

4. "Gaseous Continuous Emission Monitoring Systems -- Performance Specification Guidelines for SO[2], NO[x], CO[2], O[2], and TRS." EPA-450/3-82-026. Available from U.S. Environmental Protection Agency, Emission Standards and Engineering Division (MD-19), Research Triangle Park, NC 27711.

PERFORMANCE SPECIFICATION 3 -- SPECIFICATIONS AND TEST PROCEDURES FOR O[2] AND CO[2] CONTINUOUS EMISSION MONITORING SYSTEMS IN STATIONARY SOURCES

1. *Applicability and Principle*

1.1 Applicability. This specification is to be used for evaluating acceptability of O[2] and CO[2] continuous emission monitoring systems (CEM's) at the time of or soon after installation and whenever specified in an applicable subpart of the regulations. The specification applies to O[2] or CO[2] monitors that are not included under Performance Specification 2 (PS 2).

This specification is not designed to evaluate the installed CEMS performance over an extended period of time, nor does it identify specific calibration techniques and other auxiliary procedures to assess the CEMS performance. The source owner or operator, however, is responsible to calibrate, maintain, and operate the CEMS properly. To evaluate the CEMS performance, the Administrator may require, under Section 114 of the Act, the operator to conduct CEMS performance evaluations in addition to the initial test. See Section 60.13(c).

The definitions, installation and measurement location specifications, test procedures, data reduction procedures, reporting requirements, and bibliography are the same as in PS 2, Sections 2, 3, 5, 6, 8, 9, and 10, and also apply to O[2] and CO[2] CEMS's under this specification. The performance and equipment specifications and the relative accuracy (RA) test procedures for O[2] and CO[2] CEMS do not differ from those for SO[2] and NO[x] CEMS, except as noted below.

1.2 Principle. Reference method (RM) tests and calibration drift tests are conducted to determine conformance of the CEMS with the specification.

2. *Performance and Equipment Specifications*

2.1 Instrument Zero and Span. This specification is the same as Section 4.1 of PS 2.

2.2 Calibration Drift. The CEMS calibration must not drift by more than 0.5 percent O[2] or CO[2] from the

reference value of the gas, gas cell, or optical filter.

2.3 The CEMS RA. The RA of the CEMS must be no greater than 20 percent of the mean value of the RM test data or 1.0 percent O[2] or CO[2], whichever is greater.

3. *Relative Accuracy Test Procedure*

3.1 Sampling Strategy for RM Tests, Correlation of RM and CEMS Data, Number of RM Tests, and Calculations. This is the same as PS 2, Sections 7.1, 7.2, 7.3, and 7.5, respectively.

3.2 Reference Method. Unless otherwise specified in an applicable subpart of the regulations, Method 3B of appendix A or any approved alternative is the RM for O[2] or CO[2].

PERFORMANCE SPECIFICATION 4 -- SPECIFICATIONS AND TEST PROCEDURES FOR CARBON MONOXIDE CONTINUOUS EMISSION MONITORING SYSTEMS IN STATIONARY SOURCES

1. *Applicability and Principle*

1.1 Applicability. This specification is to be used for evaluating the acceptability of carbon monoxide (CO) continuous emission monitoring systems (CEMS) at the time of or soon after installation and whenever specified in an applicable subpart of the regulations.

This specification is not designed to evaluate the installed CEMS performance over an extended period of time nor does it identify specific calibration techniques and other auxiliary procedures to assess CEMS performance. The source owner or operator, however, is responsible to calibrate, maintain, and operate the CEMS. To evaluate CEMS performance, the Administrator may require, under section 114 of the Act, the source owner or operator to conduct CEMS performance evaluations at other times besides the initial test. See § 60.13(c).

The definitions, installation specifications, test procedures, data reduction procedures for determining calibration drifts (CD) and relative accuracy (RA), and reporting of Performance Specification 2 (PS 2), Sections 2, 3, 5, 6, 8, and 9 apply to this specification.

1.2 Principle. Reference method (RM), CD, and RA tests are conducted to determine that the CEMS conforms to the specification.

2. *Performance and Equipment Specifications*

2.1 Instrument Zero and Span. This specification is the same as Section 4.1 of PS 2.

2.2 Calibration Drift. The CEMS calibration must not drift or deviate from the reference value of the calibration gas, gas cell, or optical filter by more than 5 percent of the established span value for 6 out of 7 test days (e.g., the established span value is 1000 ppm for subpart J affected facilities).

2.3 Relative Accuracy. The RA of the CEMS shall be no greater than 10 percent of the mean value of the RM test data in terms of the units of the emission standard or 5 percent of the applicable standard, whichever is greater.

3. *Relative Accuracy Test Procedure*

3.1 Sampling Strategy for RM Tests, Correlation of RM and CEMS Data, Number of RM Tests, and Calculations. These are the same as PS 2, Sections 7.1, 7.2, 7.3, and 7.5, respectively.

3.2 Reference Methods. Unless otherwise specified in an applicable subpart of the regulation, Method 10 is the RM for this PS. When evaluating nondispersive infrared continuous emission analyzers, Method 10 shall use the alternative interference trap specified in section 10.1 of the method. Method 10A or 10B is an acceptable alternative to method 10.

4. *Bibliography*

1. Ferguson, B. B., R. E. Lester, and W. J. Mitchell. Field Evaluation of Carbon Monoxide and Hydrogen Sulfide Continuous Emission Monitors at an Oil Refinery. U.S. Environmental Protection Agency. Research Triangle Park, NC. Publication No. EPA-600/4-82-054. August 1982. 100 p.

2. Repp, M. Evaluation of Continuous Monitors for Carbon Monoxide in Stationary Sources. U.S. Environmental Protection Agency. Research Triangle Park, NC. Publication No. EPA-600/2-77-063. March 1977/155 p.

3. Smith, F., D. E. Wagoner, and R. P. Donovan. Guidelines for Development of a Quality Assurance Program: Volume VIII -- Determination of CO Emissions from Stationary Sources by NDIR Spectrometry. U.S. Environmental Protection Agency. Research Triangle Park, NC. Publication No. EPA-650/4-74-005-h. February 1975. 96 p.

PERFORMANCE SPECIFICATION 4A -- SPECIFICATIONS AND TEST PROCEDURES FOR CARBON MONOXIDE CONTINUOUS EMISSION MONITORING SYSTEMS IN STATIONARY SOURCES

1. *Applicability and Principle*

1.1 Applicability.

1.1.1 This specification is to be used for evaluating the acceptability of carbon monoxide (CO) continuous emission monitoring systems (CEMS's) at the time of or soon after installation and whenever specified in an applicable subpart of the regulations.

1.1.2 This specification is not designed to evaluate the installed CEMS performance over an extended period of time nor does it identify specific calibration techniques and other auxiliary procedures to assess CEMS performance. The source owner or operator, however, is responsible to calibrate, maintain, and operate the CEMS. To evaluate CEMS performance, the Administrator may require, under section 114 of the Act, the source owner or operator to conduct CEMS performance evaluations at other times besides the initial test. See § 60.13(c).

1.1.3 The definition, installation specifications, test procedures, data reduction procedures for determining calibration drifts (CD) and relative accuracy (RA), and reporting of Performance Specification 2 (PS 2), sections 2, 3, 5, 6, 8, and 9 apply to this specification.

1.2 Principle. Reference method (RM), CD and RA tests are conducted to determine that the CEMS conforms to the specification.

2. *Performance and Equipment Specifications*

2.1 Data Recorder Scale. This specification is the same as section 4.1 of PS 2. The CEMS shall be capable of measuring emission levels under normal conditions and under periods of short-duration peaks of high concentrations. This dual-range capability may be met using two separate analyzers, one for each range, or by using dual-range units which have the capability of measuring both levels with a single unit. In the latter case, when the reading goes above the full-scale measurement value of the lower range, the higher-range operation

shall be started automatically. The CEMS recorder range must include zero and a high-level value.

For the low-range scale, the high-level value shall be between 1.5 times the pollutant concentration corresponding to the emission standard level and the span value. For the high-range scale, the high-level value shall be set at 2000 ppm, as a minimum, and the range shall include the level of the span value. There shall be no concentration gap between the low- and high-range scales.

2.2 Interferenc Check. The CEMS must be shown to be free from the effects of any interferences.

2.3 Response Time. The CEMS response time shall not exceed 1.5 min to achieve 95 percent of the final stable value.

2.4 Calibration Drift. The CEMS calibration must not drift or deviate from the reference value of the calibration gas, gas cell, or optical filter by more than 5 percent of the established span value for 6 out of 7 test days.

2.5 Relative Accuracy. The RA of the CEMS shall be no greater than 10 percent of the mean value of the RM test data in terms of the units of the emission standard or 5 ppm, whichever is greater. Under conditions where the average CO emissions are less than 10 percent of the standard, a cylinder gas audit may be performed in place of the RA test to determine compliance with these limits. In this case, the cylinder gas shall contain CO in 12 percent carbon dioxide as an interference check. If this option is exercised, Method 10 must be used to verify that emission levels are less than 10 percent of the standard.

3. Response Time Test Procedure

The response time test applies to all types of CEMS's, but will generally have significance only for extractive systems. The entire system is checked with this procedure including applicable sample extraction and transport, sample conditioning, gas analyses, and data recording.

Introduce zero gas into the system. For extractive systems, the calibration gases should be introduced at the probe as near to the sample location as possible. For in-situ systems, introduce the zero gas at the sample interface so that all components active in the analysis are tested. When the system output has stabilized (no change greater than 1 percent of full scale for 30 sec), switch to monitor stack effluent and wait for a stable value. Record the time (upscale response time) required to reach 95 percent of the final stable value. Next, introduce a high-level calibration gas and repeat the procedure (stabilize, switch the sample, stabilize, record). Repeat the entire procedure three times and determine the mean upscale and downscale response times. The slower or longer of the two means is the system response time.

4. Relative Accuracy Test Procedure

4.1 Sampling Strategy for RM Tests, Correlation of RM and CEMS Data, Number of RM Tests, and Calculations. These are the same as PS 2, sections 7.1, 7.2, 7.3, and 7.5, respectively.

4.2 Reference Methods. Unless otherwise specified in an applicable subpart of the regulation, Methods 10 is the RM for this PS. When evaluating nondispersive infrared continuous emission analyzers, Method 10 shall use the alternative interference trap specified in section 10.1 of the method. Method 10A or 10B is an acceptable alternative to Method 10.

5. Bibliography

1. Same as in Performance Specification 4, section 4.

2. "Gaseous Continuous Emission Monitoring Systems -- Performance Specification Guidelines for SO[2],

NO[x], CO[2], O[2], and TRS." EPA-450/3-82-026. U.S. Environmental Protection Agency, Technical Support Division (MD-19). Research Triangle Park, NC 27711.

PERFORMANCE SPECIFICATION 5--SPECIFICATIONS AND TEST PROCEDURES FOR TRS CONTINUOUS EMISSION MONITORING SYSTEMS IN STATIONARY SOURCES

1. *Applicability and Principle*

1.1 Applicability. This specification is to be used for evaluating the acceptability of total reduced sulfur (TRS) and whenever specified in an applicable subpart of the regulations. (At present, these performance specifications do not apply to petroleum refineries, subpart J.) Sources affected by the promulgation of the specification shall be allowed 1 year beyond the promulgation date to install, operate, and test the CEMS. The CEMS's may include O[2] monitors which are subject to Performance Specification 3 (PS 3).

The definitions, installation specifications, test procedures, and data reduction procedures for determining calibration drifts (CD's) and relative accuracy (RA), and reporting of PS 2, Sections 2, 3, 4, 5, 6, 8, and 9 also apply to this specification and must be consulted. The performance and equipment specifications do not differ from PS 2 except as listed below and are included in this specification.

1.2 Principle. The CD and RA tests are conducted to determine conformance of the CEMS with the specification.

2. *Performance and Equipment Specifications*

2.1 Instrument Zero and Span. The CEMS recorder span must be set at 90 to 100 percent of recorder full-scale using a span level between 1.5 times the pollutant concentration corresponding to the emission standard level and the span value. The CEMS design shall also allow the determination of calibration at the zero level of the calibration curve. If zero calibration is not possible or is impractical, this determination may be conducted at a low level (up to 20 percent of span value) point. The components of an acceptable permeation tube system are listed on pages 87-94 of Citation 4.2 of the Bibliography.

2.2 Calibration Drift. The CEMS detector calibration must not drift or deviate from the reference value of the calibration gas by more than 5 percent (1.5 ppm) of the established span value of 30 ppm for 6 out of 7 test days. If the CEMS includes pollutant and diluent monitors, the CD must be determined separately for each in terms of concentrations (see PS 3 for the diluent specifications).

2.3 The CEMS Relative Accuracy. The RA of the CEMS shall be no greater than 20 percent of the mean value of the reference method (RM) test data in terms of the units of the emission standard or 10 percent of the applicable standard, whichever is greater.

3. *Relative Accuracy Test Procedure*

3.1 Sampling Strategy for RM Tests, Correlation of RM and CEMS Data, Number of RM Tests, and Calculations. This is the same as PS 2, Sections 7.1, 7.2, 7.3, and 7.5, respectively. Note: For Method 16, a sample is made up of at least three separate injects equally spaced over time. For Method 16A, a sample is collected for at least 1 hour.

3.2 Reference Methods. Unless otherwise specified in an applicable subpart of the regulations, Method 16, Method 16A, or other approved alternative, shall be the RM for TRS.

4. *Bibliography*

1. Department of Commerce. Experimental Statistics. National Bureau of Standards. Handbook 91. 1963. Paragraphs 3-3.1.4, p. 3-31.

2. A Guide to the Design, Maintenance and Operation of TRS Monitoring Systems. National Council for Air and Stream Improvement Technical Bulletin No. 89. September 1977.

3. Observation of Field Performance of TRS Monitors on a Kraft Recovery Furnace. National Council for Air and Stream Improvement Technical Bulletin No. 91. January 1978.

PERFORMANCE SPECIFICATION 6 -- SPECIFICATIONS AND TEST PROCEDURES FOR CONTINUOUS EMISSION RATE MONITORING SYSTEMS IN STATIONARY SOURCES

1. Applicability and Principle

1.1 Applicability. The applicability for this specification is the same as Section 1.1 of Performance Specification 2 (PS 2), except this specification is to be used for evaluating the acceptability of continuous emission rate monitoring systems (CERMS's) . The installation and measurement location specifications, performance specification test procedure, data reduction procedures, and reporting requirements of PS 2, Section 3, 5, 8, and 9, apply to this specification.

1.2 Principle. Reference method (RM), calibration drift (CD), and relative accuracy (RA) tests are conducted to determine that the CERMS conforms to the specification.

2. Definitions

The definitions are the same as in Section 2 of PS 2, except that this specification refers to the continuous emission rate monitoring system rather than the continuous emission monitoring system. The following definitions are added:

2.1 Continuous Emission Rate Monitoring System (CERMS). The total equipment required for the determination and recording of the pollutant mass emission rate (in terms of mass per unit of time).

2.2 Flow Rate Sensor. That portion of the CERMS that senses the volumetric flow rate and generates an output proportional to flow rate. The flow rate sensor shall have provisions to check the CD for each flow rate parameter that it measures individually (e.g., velocity pressure).

3. Performance and Equipment Specifications

3.1 Data Recorder Scale. Same as Section 4.1 of PS 2.

3.2 CD. Since the CERMS includes analyzers for several measurements, the CD shall be determined separately for each analyzer in terms of its specific measurement. The calibration for each analyzer used for the measurement of flow rate except a temperature analyzer shall not drift or deviate from either of its reference values by more than 3 percent of 1.25 times the average potential absolute value for that measurement. For a temperature analyzer, the specification is 1.5 percent of 1.25 times the average potential absolute temperature. The CD specification for each analyzer for which other PS's have been established (e.g., PS 2 for SO[2] and NO[x]), shall be the same as in the applicable PS.

3.3 CERMS RA. The RA of the CERMS shall be no greater than 20 percent of the mean value of the RM's test data in terms of the units of the emission standard, or 10 percent of the applicable standard, whichever is greater.

4. CD Test Procedure

The CD measurements are to verify the ability of the CERMS to conform to the established CERMS calibrations used for determining the emission rate. Therefore, if periodic automatic or manual adjustments are made to the CERMS zero and calibration settings, conduct the CD tests immediately before these adjustments, or conduct them in such a way that CD can be determined.

Conduct the CD tests for pollutant concentration at the two values specified in Section 4.1 of PS 2. For each of the other parameters that are selectively measured by the CERMS (e.g., velocity pressure), use two analogous values: one that represents zero to 20 percent of the high-level value (a value that is between 1.25 and 2 times the average potential value) for that parameter, and one that represents 50 to 100 percent of the high-level value. Introduce, or activate internally, the reference signals to the CERMS (these need not be certified). Record the CERMS response to each, and subtract this value from the respective reference value (see example data sheet in Figure 6-1).

5. RA Test Procedure

5.1 Sampling Strategy for RM's Tests, Correlation of RM and CERMS Data, Number of RM's Tests, and Calculations. These are the same as PS 2, Sections 7.1, 7.2, 7.3, and 7.5, respectively. Summarize the results on a data sheet. An example is shown in Figure 6-2. The RA test may be conducted during the CD test period.

5.2 Reference Methods (RM's). Unless otherwise specified in the applicable subpart of the regulations, the RM for the pollutant gas is the appendix A method that is cited for compliance test purposes, or its approved alternatives. Methods 2, 2A, 2B, 2C, or 2D, as applicable are the RM's for the determination of volumetric flow rate.

6. Bibliography

1. Brooks, E. F., E. C. Beder, C. A. Flegal, D. J. Luciani, and R. Williams. Continuous Measurement of Total Gas Flow Rate from Stationary Sources. U.S. Envionmental Protection Agency. Research Triangle Park, NC. Publication No. EPA-650/2-75-020. February 1975. 248 p.

PERFORMANCE SPECIFICATION 7 -- SPECIFICATIONS AND TEST PROCEDURES FOR HYDROGEN SULFIDE CONTINUOUS EMISSION MONITORING SYSTEMS IN STATIONARY SOURCES

1. Applicability and Principle

1.1 *Applicability.* 1.1.1 This specification is to be used for evaluating the acceptability of hydrogen sulfide (H[2]S) continuous emission monitoring systems (CEMS's) at the time of or soon after installation and whenever specified in an applicable subpart of the regulations.

1.1.2 This specification is not designed to evaluate the installed CEMS performance over an extended period of time nor does it identify specific calibration techniques and other auxiliary procedures to assess CEMS performance. The source owner or operator, however, is responsible to calibrate, maintain, and operate the CEMS. To evaluate CEMS performance, the Administrator may require, under Section 114 of the Act, the source owner or operator to conduct CEMS performance evaluations at other times besides the initial test. *See* § 60.13(c).

1.1.3 The definitions, installation specifications, test procedures, data reduction procedures for determining calibration drifts (CD) and relative accuracy (RA), and reporting of Performance Specification 2 (PS 2), Sections 2, 3, 5, 6, 8, and 9 apply to this specification.

1.2 Principle. Reference method (RM), CD, and RA tests are conducted to determine that the CEMS conforms to the specification.

2. Performance and Equipment Specifications

2.1 *Instrument zero and span.* This specification is the same as Section 4.1 of PS 2.

2.2 *Calibration drift.* The CEMS calibration must not drift or deviate from the reference value of the calibration gas or reference source by more than 5 percent of the established span value for 6 out of 7 test days (e.g., the established span value is 300 ppm for subpart J fuel gas combustion devices).

2.3 *Relative accuracy.* The RA of the CEMS shall be no greater than 20 percent of the mean value of the RM test data in terms of the units of the emission standard or 10 percent of the applicable standard, whichever is greater.

3. Relative Accuracy Test Procedure

3.1 Sampling Strategy for RM Tests, Correlation of RM and CEMS Data Number of RM Tests, and Calculations. These are the same as that in PS 2, § 7.1, 7.2, 7.3, and 7.5, respectively.

3.2 Reference Methods. Unless otherwise specified in an applicable subpart of the regulation, Method 11 is the RM for this PS.

4. Bibliography

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SOURCE: [48 FR 13327, Mar. 30, 1983 and 48 FR 23611, May 25, 1983, as amended at 48 FR 32986, July 20, 1983; 51 FR 31701, Aug. 5, 1985; 52 FR 17556, May 11, 1987; 52 FR 30675, Aug. 18, 1987; 52 FR 34650, Sept. 14, 1987; 53 FR 7515, Mar. 9, 1988; 53 FR 41335, Oct. 21, 1988; 55 FR 18876, May 7, 1990; 55 FR 40178, Oct. 2, 1990; 55 FR 47474, Nov. 14, 1990; 56 FR 5526, Feb. 11, 1991]

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Appendix F to Part 60—Quality Assurance Procedures

Procedure 1. Quality Assurance Requirements for Gas Continuous Emission Monitoring Systems Used for Compliance Determination

1. Applicability and Principle

1.1 Applicability. Procedure 1 is used to evaluate the effectiveness of quality control (QC) and quality assurance (QA) procedures and the quality of data produced by any continuous emission monitoring system (CEMS) that is used for determining compliance with the emission standards on a continuous basis as specified in the applicable regulation. The CEMS may include pollutant (e.g., $S0_2$and $N0_x$) and diluent (e.g., 0_2or $C0_2$) monitors.

This procedure specifies the minimum QA requirements necessary for the control and assessment of the quality of CEMS data submitted to the Environmental Protection Agency (EPA). Source owners and operators responsible for one or more CEMS's used for compliance monitoring must meet these minimum requirements and are encouraged to develop and implement a more extensive QA program or to continue such programs where they already exist.

Data collected as a result of QA and QC measures required in this procedure are to be submitted to the Agency. These data are to be used by both the Agency and the CEMS operator in assessing the effectiveness of the CEMS QC and QA procedures in the maintenance of acceptable CEMS operation and valid emission data.

Appendix F, Procedure 1 is applicable December 4, 1987. The first CEMS accuracy assessment shall be a relative accuracy test audit (RATA) (see section 5) and shall be completed by March 4, 1988 or the date of the initial performance test required by the applicable regulation, whichever is later.

1.2 Principle. The QA procedures consist of two distinct and equally important functions. One function is the assessment of the quality of the CEMS data by estimating accuracy. The other function is the control and improvement of the quality of the CEMS data by implementing QC policies and corrective actions. These two functions form a control loop: When the assessment function indicates that the data quality is inadequate, the control effort must be increased until the data quality is acceptable. In order to provide uniformity in the assessment and reporting of data quality, this procedure explicitly specifies the assessment methods for response drift and accuracy. The methods are based on procedures included in the applicable performance specifications (PS's) in appendix B of 40 CFR part 60. Procedure 1 also requires the analysis of the EPA audit samples concurrent with certain reference method (RM) analyses as specified in the applicable RM's.

Because the control and corrective action function encompasses a variety of policies, specifications, standards, and corrective measures, this procedure treats QC requirements in general terms to allow each source owner or operator to develop a QC system that is most effective and efficient for the circumstances.

2. Definitions

2.1 Continuous Emission Monitoring System. The total equipment required for the determination of a gas concentration or emission rate.

2.2 Diluent Gas. A major gaseous constituent in a gaseous pollutant mixture. For combustion sources, $CO_2$and $O_2$are the major gaseous constituents of interest.

2.3 Span Value. The upper limit of a gas concentration measurement range that is specified for affected source categories in the applicable subpart of the regulation.

2.4 Zero, Low-Level, and High-Level Values. The CEMS response values related to the source specific span value. Determination of zero, low-level, and high-level values is defined in the appropriate PS in appendix B of this part.

2.5 Calibration Drift (CD). The difference in the CEMS output reading from a reference value after a period of operation during which no unscheduled maintenance, repair or adjustment took place. The reference value may be supplied by a cylinder gas, gas cell, or optical filter and need not be certified.

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

3. QC Requirements

Each source owner or operator must develop and implement a QC program. As a minimum, each QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1. Calibration of CEMS.

2. CD determination and adjustment of CEMS.

3. Preventive maintenance of CEMS (including spare parts inventory).

4. Data recording, calculations, and reporting.

5. Accuracy audit procedures including sampling and analysis methods.

6. Program of corrective action for malfunctioning CEMS.

As described in Section 5.2, whenever excessive inaccuracies occur for two consecutive quarters, the source owner or operator must revise the current written procedures or modify or replace the CEMS to correct the deficiency causing the excessive inaccuracies.

These written procedures must be kept on record and available for inspection by the enforcement agency.

4. CD Assessment

4.1 CD Requirement. As described in 40 CFR 60.13(d), source owners and operators of CEMS must check, record, and quantify the CD at two concentration values at least once daily (approximately 24 hours) in accordance with the method prescribed by the manufacturer. The CEMS calibration must, as minimum, be adjusted whenever the daily zero (or low-level) CD or the daily high-level CD exceeds two times the limits of the applicable PS's in appendix B of this regulation.

4.2 Recording Requirement for Automatic CD Adjusting Monitors. Monitors that automatically adjust the data to the corrected calibration values (e.g., microprocessor control) must be programmed to record the unadjusted concentration measured in the CD prior to resetting the calibration, if performed, or record the amount of adjustment.

4.3 Criteria for Excessive CD. If either the zero (or low-level) or high-level CD result exceeds twice the applicable drift specification in appendix B for five, consecutive, daily periods, the CEMS is out-of-control. If either the zero (or low-level) or high-level CD result exceeds four times the applicable drift specification in appendix B during any CD check, the CEMS is out-of-control. If the CEMS is out-of-control, take necessary corrective action. Following corrective action, repeat the CD checks.

4.3.1 Out-Of-Control Period Definition. The beginning of the out-of-control period is the time corresponding to the completion of the fifth, consecutive, daily CD check with a CD in excess of two times the allowable limit, or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit. The end of the out-of-control period is the time corresponding to the completion of the CD check following corrective action that results in the CD's at both the zero (or low-level) and high-level measurement points being within the corresponding allowable CD limit (i.e., either two times or four times the allowable limit in appendix B).

4.3.2 CEMS Data Status During Out-of-Control Period. During the period the CEMS is out-of-control, the CEMS data may not be used in calculating emission compliance nor be counted towards meeting minimum data availability as required and described in the applicable subpart [e.g., §60.47a(f)].

4.4 Data Recording and Reporting. As required in §60.7(d) of this regulation (40 CFR part 60), all measurements from the CEMS must be retained on file by the source owner for at least 2 years. However, emission data obtained on each successive day while the CEMS is out-of-control may not be included as part of the minimum daily data requirement of the applicable subpart [e.g., §60.47a(f)] nor be used in the calculation of reported emissions for that period.

5. Data Accuracy Assessment

5.1 Auditing Requirements. Each CEMS must be audited at least once each calendar quarter. Successive quarterly audits shall occur no closer than 2 months. The audits shall be conducted as follows:

5.1.1 Relative Accuracy Test Audit (RATA). The RATA must be conducted at least once every four calendar quarters, except as otherwise noted in section 5.1.4 of this appendix. Conduct the RATA as described for the RA test procedure in the applicable PS in appendix B (e.g., PS 2 for $SO_2$and NO_X). In addition, analyze the appropriate performance audit samples received from EPA as described in the applicable sampling methods (e.g., Methods 6 and 7).

5.1.2 Cylinder Gas Audit (CGA). If applicable, a CGA may be conducted in three of four calendar quarters, but in no more than three quarters in succession.

To conduct a CGA: (1) Challenge the CEMS (both pollutant and diluent portions of the CEMS, if applicable) with an audit gas of known concentration at two points within the following ranges:

Audit point	**Audit range**		
	Pollutant monitors	**Diluent monitors for—**	
		CO_2	**O_2**
1	20 to 30% of span value	5 to 8% by volume	4 to 6% by volume.
2	50 to 60% of span value	10 to 14% by volume	8 to 12% by volume.

Challenge the CEMS three times at each audit point, and use the average of the three responses in determining accuracy.

Use of separate audit gas cylinder for audit points 1 and 2. Do not dilute gas from audit cylinder when challenging the CEMS.

The monitor should be challenged at each audit point for a sufficient period of time to assure adsorption-desorption of the CEMS sample transport surfaces has stabilized.

(2) Operate each monitor in its normal sampling mode, i.e., pass the audit gas through all filters, scrubbers, conditioners, and other monitor components used during normal sampling, and as much of the sampling probe as is practical. At a minimum, the audit gas should be introduced at the connection between the probe and the sample line.

(3) Use Certified Reference Materials (CRM's) (See Citation 1) audit gases that have been certified by comparison to National Institute of Standards and Technology (NIST) or EPA Traceability Protocol Materials (ETPM's) following the most recent edition of EPA's Traceability Protocol No. 1 (See Citation 2). Procedures for preparation of CRM's are described in Citation 1. Procedures for preparation of ETPM's are described in Citation 2. As an alternative to CRM's or ETPM gases, Method 205 (See Citation 3) may be used. The difference between the

actual concentration of the audit gas and the concentration indicated by the monitor is used to assess the accuracy of the CEMS.

5.1.3 Relative Accuracy Audit (RAA). The RAA may be conducted three of four calendar quarters, but in no more than three quarters in succession. To conduct a RAA, follow the procedure described in the applicable PS in appendix B for the relative accuracy test, except that only three sets of measurement data are required. Analyses of EPA performance audit samples are also required.

The relative difference between the mean of the RM values and the mean of the CEMS responses will be used to assess the accuracy of the CEMS.

5.1.4 Other Alternative Audits. Other alternative audit procedures may be used as approved by the Administrator for three of four calendar quarters. One RATA is required at least every four calendar quarters, except in the case where the affected facility is off-line (does not operate) in the fourth calendar quarter since the quarter of the previous RATA. In that case, the RATA shall be performed in the quarter in which the unit recommences operation. Also, cylinder gas audits are not be required for calendar quarters in which the affected facility does not operate.

5.2 Excessive Audit Inaccuracy. If the RA, using the RATA, CGA, or RAA exceeds the criteria in section 5.2.3, the CEMS is out-of-control. If the CEMS is out-of-control, take necessary corrective action to eliminate the problem. Following corrective action, the source owner or operator must audit the CEMS with a RATA, CGA, or RAA to determine if the CEMS is operating within the specifications. A RATA must always be used following an out-of-control period resulting from a RATA. The audit following corrective action does not require analysis of EPA performance audit samples. If audit results show the CEMS to be out-of-control, the CEMS operator shall report both the audit showing the CEMS to be out-of-control and the results of the audit following corrective action showing the CEMS to be operating within specifications.

5.2.1 Out-Of-Control Period Definition. The beginning of the out-of-control period is the time corresponding to the completion of the sampling for the RATA, RAA, or CGA. The end of the out-of-control period is the time corresponding to the completion of the sampling of the subsequent successful audit.

5.2.2 CEMS Data Status During Out-Of-Control Period. During the period the monitor is out-of-control, the CEMS data may not be used in calculating emission compliance nor be counted towards meeting minimum data availabilty as required and described in the applicable subpart [e.g., §60.47a(f)].

5.2.3 Criteria for Excessive Audit Inaccuracy. Unless specified otherwise in the applicable subpart, the criteria for excessive inaccuracy are:

(1) For the RATA, the allowable RA in the applicable PS in appendix B.

(2) For the CGA, ±15 percent of the average audit value or ±5 ppm, whichever is greater.

(3) For the RAA, ±15 percent of the three run average or ±7.5 percent of the applicable standard, whichever is greater.

5.3 Criteria for Acceptable QC Procedure. Repeated excessive inaccuracies (i.e., out-of-control conditions resulting from the quarterly audits) indicates the QC procedures are inadequate or that the CEMS is incapable of providing quality data. Therefore, whenever excessive inaccuracies occur for two consective quarters, the source owner or operator must revise the QC procedures (see Section 3) or modify or replace the CEMS.

6. Calculations for CEMS Data Accuracy

6.1 RATA RA Calculation. Follow the equations described in Section 8 of appendix B, PS 2 to calculate the RA for the RATA. The RATA must be calculated in units of the applicable emission standard (e.g., ng/J).

6.2 RAA Accuracy Calculation. Use Equation 1–1 to calculate the accuracy for the RAA. The RAA must be calculated in units of the applicable emission standard (e.g., ng/J).

6.3 CGA Accuracy Calculation. Use Equation 1–1 to calculate the accuracy for the CGA, which is calculated in units of the appropriate concentration (e.g., ppm SO_2or percent O_2). Each component of the CEMS must meet the acceptable accuracy requirement.

$$A = \frac{C_m - C_a}{C_a} \times 100 \qquad Eq.\ 1\text{-}1$$

where:

A=Accuracy of the CEMS, percent.

C_m=Average CEMS response during audit in units of applicable standard or appropriate concentration.

C_a=Average audit value (CGA certified value or three-run average for RAA) in units of applicable standard or appropriate concentration.

6.4 Example Accuracy Calculations. Example calculations for the RATA, RAA, and CGA are available in Citation 3.

7. Reporting Requirements

At the reporting interval specified in the applicable regulation, report for each CEMS the accuracy results from Section 6 and the CD assessment results from Section 4. Report the drift and accuracy information as a Data Assessment Report (DAR), and include one copy of this DAR for each quarterly audit with the report of emissions required under the applicable subparts of this part.

As a minimum, the DAR must contain the following information:

1. Source owner or operator name and address.

2. Identification and location of monitors in the CEMS.

3. Manufacturer and model number of each monitor in the CEMS.

4. Assessment of CEMS data accuracy and date of assessment as determined by a RATA, RAA, or CGA described in Section 5 including the RA for the RATA, the A for the RAA or CGA, the RM results, the cylinder gases certified values, the CEMS responses, and the calculations results as defined in Section 6. If the accuracy audit results show the CEMS to be out-of-control, the CEMS operator shall report both the audit results showing the CEMS to be out-of-control and the results of the audit following corrective action showing the CEMS to be operating within specifications.

5. Results from EPA performance audit samples described in Section 5 and the applicable RM's.

6. Summary of all corrective actions taken when CEMS was determined out-of-control, as described in Sections 4 and 5.

An example of a DAR format is shown in Figure 1.

8. Bibliography

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2. “EPA Traceability Protocol For Assay And Certification Of Gaseous Calibration Standards.” EPA–600/R–97/121, September 1997. Available from EPA's Emission Measurement Center at *http://www.epa.gov/ttn/emc.*

3. Method 205, “Verification of Gas Dilution Systems for Field Instrument Calibrations,” 40 CFR 51, appendix M.

Figure 1—Example Format for Data Assessment Report

Period ending date_____
Year_____
Company name_____
Plant name_____
Source unit no._____
CEMS manufacturer_____
Model no._____

CEMS serial no._____
CEMS type (e.g., in situ)_____
CEMS sampling location (e.g., control device outlet)_____

CEMS span values as per the applicable regulation: _____ (e.g., SO_2____ ppm, NO_X____ ppm). _____

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.) If the quarterly audit results show the CEMS to be out-of-control, report the results of both the quarterly audit and the audit following corrective action showing the CEMS to be operating properly.

A. Relative accuracy test audit (RATA) for ____ (e.g., SO_2in ng/J).

1. Date of audit ____.

2. Reference methods (RM's) used ____ (e.g., Methods 3 and 6).

3. Average RM value ____ (e.g., ng/J, mg/dsm^3 , or percent volume).

4. Average CEMS value ____.

5. Absolute value of mean difference [d] ____.

6. Confidence coefficient [CC] ____.

7. Percent relative accuracy (RA) ____ percent.

8. EPA performance audit results:

a. Audit lot number (1) ____ (2) ____

b. Audit sample number (1) ____ (2) ____

c. Results (mg/dsm^3) (1) ____ (2) ____

d. Actual value (mg/dsm^3)* (1) ____ (2) ____

e. Relative error* (1) ____ (2) ____

B. Cylinder gas audit (CGA) for ____ (e.g., SO_2in ppm).

	Audit point 1	**Audit point 2**	
1. Date of audit			
2. Cylinder ID number			
3. Date of certification			
4. Type of certification			(e.g., EPA Protocol 1 or CRM).
5. Certified audit value			(e.g., ppm).
6. CEMS response value			(e.g., ppm).
7. Accuracy			percent.

C. Relative accuracy audit (RAA) for ____ (e.g., SO_2in ng/J).

1. Date of audit ____.

2. Reference methods (RM's) used ____ (e.g., Methods 3 and 6).

3. Average RM value ____ (e.g., ng/J).

4. Average CEMS value ____.

5. Accuracy ____ percent.

6. EPA performance audit results:

a. Audit lot number (1) ____ (2) ____

b. Audit sample number (1) ____ (2) ____

c. Results (mg/dsm^3) (1) ____ (2) ____

d. Actual value (mg/dsm^3) *(1) ____ (2)

e. Relative error*(1) ____ (2) ____

*To be completed by the Agency.

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.

a. Date(s) ____.

b. Number of days ____.

2. Corrective action taken_____

3. Results of audit following corrective action. (Use format of A, B, or C above, as applicable.)

II. Calibration drift assessment.

A. Out-of-control periods.

1. Date(s) ____.

2. Number of days ____.

B. Corrective action taken_____

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

Subpart BB - Standards of Performance for Kraft Pulp Mills

40 CFR 60.280 - Applicability and designation of affected facility
(a) The provisions of this Subpart are applicable to the following affected facilities in kraft pulp mills: Digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system. In pulp mills where kraft pulping is combined with neutral sulfite semichemical pulping, the provisions of this Subpart are applicable when any portion of the material charged to an affected facility is produced by the kraft pulping operation.
(b) Except as noted in 40 CFR 60.283(a)(1)(iv), any facility under paragraph (a) of this section that commences construction or modification after September 24, 1976, is subject to the requirements of this Subpart.
[51 FR 18544, May 20, 1986]

40 CFR 60.281 - Definitions
As used in this Subpart, all terms not defined herein shall have the same meaning given them in the Act and in Subpart A.
(a) *Kraft pulp mill* means any stationary source which produces pulp from wood by cooking (digesting) wood chips in a water solution of sodium hydroxide and sodium sulfide (white liquor) at high temperature and pressure. Regeneration of the cooking chemicals through a recovery process is also considered part of the kraft pulp mill.
(b) *Neutral sulfite semichemical pulping operation* means any operation in which pulp is produced from wood by cooking (digesting) wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating (grinding).
(c) *Total reduced sulfur (TRS)* means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide, which are released during the kraft pulping operation and measured by Method 16.
(d) *Digester system* means each continuous digester or each batch digester used for the cooking of wood in white liquor, and associated flash tank(s), blow tank(s), chip steamer(s), and condenser(s).
(e) *Brown stock washer system* means brown stock washers and associated knotters, vacuum pumps, and filtrate tanks used to wash the pulp following the digester system. Diffusion washers are excluded from this definition.
(f) *Multiple-effect evaporator system* means the multiple-effect evaporators and associated condenser(s) and hotwell(s) used to concentrate the spent cooking liquid that is separated from the pulp (black liquor).
(g) *Black liquor oxidation system* means the vessels used to oxidize, with air or oxygen, the black liquor, and associated storage tank(s).
(h) *Recovery furnace* means either a straight kraft recovery furnace or a cross recovery furnace, and includes the direct-contact evaporator for a direct-contact furnace.
(i) *Straight kraft recovery furnace* means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains 7 weight percent or less of the total pulp solids from the neutral sulfite semichemical process or has green liquor sulfidity of 28 percent or less.
(j) *Cross recovery furnace* means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains more than 7 weight percent of the total pulp solids from the neutral sulfite semichemical process and has a green liquor sulfidity of more than 28 percent.
(k) *Black liquor solids* means the dry weight of the solids which enter the recovery furnace in the black liquor.
(l) *Green liquor sulfidity* means the sulfidity of the liquor which leaves the smelt dissolving tank.
(m) *Smelt dissolving tank* means a vessel used for dissolving the smelt collected from the recovery furnace.
(n) *Lime kiln* means a unit used to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.
(o) *Condensate stripper system* means a column, and associated condensers, used to strip, with air or steam, TRS compounds from condensate streams from various processes within a kraft pulp mill.
[43 FR 7572, Feb. 23, 1978, as amended at 51 FR 18544, May 20, 1986; 65 FR 61758, Oct. 17, 2000]

40 CFR 60.282 - Standard for particulate matter

(a) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of this Subpart shall cause to be discharged into the atmosphere:

(1) From any recovery furnace any gases which:

(i) Contain particulate matter in excess of 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen.

(ii) Exhibit 35 percent opacity or greater.

(2) From any smelt dissolving tank any gases which contain particulate matter in excess of 0.1 g/kg black liquor solids (dry weight)[0.2 lb/ton black liquor solids (dry weight)].

(3) From any lime kiln any gases which contain particulate matter in excess of:

(i) 0.15 g/dscm (0.066 gr/dscf) corrected to 10 percent oxygen, when gaseous fossil fuel is burned.

(ii) 0.30 g/dscm (0.13 gr/dscf) corrected to 10 percent oxygen, when liquid fossil fuel is burned.

[43 FR 7572, Feb. 23, 1978, as amended at 65 FR 61758, Oct. 17, 2000]

40 CFR 60.283 - Standard for total reduced sulfur (TRS)

(a) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of this Subpart shall cause to be discharged into the atmosphere:

(1) From any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the following conditions are met:

(i) The gases are combusted in a lime kiln subject to the provisions of paragraph (a)(5) of this section; or

(ii) The gases are combusted in a recovery furnace subject to the provisions of paragraphs (a)(2) or (a)(3) of this section; or

(iii) The gases are combusted with other waste gases in an incinerator or other device, or combusted in a lime kiln or recovery furnace not subject to the provisions of this Subpart, and are subjected to a minimum temperature of 650° C (1200° F) for at least 0.5 second; or

(iv) It has been demonstrated to the Administrator's satisfaction by the owner or operator that incinerating the exhaust gases from a new, modified, or reconstructed brown stock washer system is technologically or economically unfeasible. Any exempt system will become subject to the provisions of this Subpart if the facility is changed so that the gases can be incinerated.

(v) The gases from the digester system, brown stock washer system, or condensate stripper system are controlled by a means other than combustion. In this case, this system shall not discharge any gases to the atmosphere which contain TRS in excess of 5 ppm by volume on a dry basis, uncorrected for oxygen content.

(vi) The uncontrolled exhaust gases from a new, modified, or reconstructed digester system contain TRS less than 0.005 g/kg air dried pulp (ADP) (0.01 lb/ton ADP).

(2) From any straight kraft recovery furnace any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 8 percent oxygen.

(3) From any cross recovery furnace any gases which contain TRS in excess of 25 ppm by volume on a dry basis, corrected to 8 percent oxygen.

(4) From any smelt dissolving tank any gases which contain TRS in excess of 0.016 g/kg black liquor solids as H_2S (0.033 lb/ton black liquor solids as H_2S).

(5) From any lime kiln any gases which contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10 percent oxygen.

[43 FR 7572, Feb. 23, 1978, as amended at 50 FR 6317, Feb. 14, 1985; 51 FR 18544, May 20, 1986; 65 FR 61758, Oct. 17, 2000]

40 CFR 60.284 - Monitoring of emissions and operations

(a) Any owner or operator subject to the provisions of this Subpart shall install, calibrate, maintain, and operate the following continuous monitoring systems:

(1) A continuous monitoring system to monitor and record the opacity of the gases discharged into the atmosphere from any recovery furnace. The span of this system shall be set at 70 percent opacity.

(2) Continuous monitoring systems to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from any lime kiln,

recovery furnace, digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system, except where the provisions of 40 CFR 60.283(a)(1) (iii) or (iv) apply. These systems shall be located downstream of the control device(s) and the spans of these continuous monitoring system(s) shall be set:

(i) At a TRS concentration of 30 ppm for the TRS continuous monitoring system, except that for any cross recovery furnace the span shall be set at 50 ppm.

(ii) At 25 percent oxygen for the continuous oxygen monitoring system.

(b) Any owner or operator subject to the provisions of this Subpart shall install, calibrate, maintain, and operate the following continuous monitoring devices:

(1) For any incinerator, a monitoring device which measures and records the combustion temperature at the point of incineration of effluent gases which are emitted from any digester system, brown stock washer system, multiple-effect evaporator system, black liquor oxidation system, or condensate stripper system where the provisions of 40 CFR 60.283(a)(1)(iii) apply. The monitoring device is to be certified by the manufacturer to be accurate within ± 1 percent of the temperature being measured.

(2) For any lime kiln or smelt dissolving tank using a scrubber emission control device:

(i) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gage pressure of ± 500 pascals (ca. ± 2 inches water gage pressure).

(ii) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 15 percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The Administrator may be consulted for approval of alternative locations.

(c) Any owner or operator subject to the provisions of this Subpart shall, except where the provisions of 40 CFR 60.283(a)(1)(iii) or (iv) apply, perform the following:

(1) Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section.

(2) Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace and lime kiln. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under paragraph (c)(1) of this section and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section.

(3) Using the following equation, correct all 12-hour average TRS concentrations to 10 volume percent oxygen, except that all 12-hour average TRS concentrations from a recovery furnace shall be corrected to 8 volume percent oxygen instead of 10 percent, and all 12-hour average TRS concentrations from a facility to which the provisions of 40 CFR 60.283(a)(1)(v) apply shall not be corrected for oxygen content:

$$C_{corr} = C_{meas} \times (21 - X / 21 - Y)$$

where:

C_{corr} = the concentration corrected for oxygen.

C_{meas} = the concentration uncorrected for oxygen.

X = the volumetric oxygen concentration in percentage to be corrected to (8 percent for recovery furnaces and 10 percent for lime kilns, incinerators, or other devices).

Y = the measured 12-hour average volumetric oxygen concentration.

(4) Record once per shift measurements obtained from the continuous monitoring devices installed under paragraph (b)(2) of this section.

(d) For the purpose of reports required under 40 CFR 60.7(c), any owner or operator subject to the provisions of this Subpart shall report semiannually periods of excess emissions as follows:

(1) For emissions from any recovery furnace periods of excess emissions are:

(i) All 12-hour averages of TRS concentrations above 5 ppm by volume for straight kraft recovery furnaces and above 25 ppm by volume for cross recovery furnaces.

(ii) All 6-minute average opacities that exceed 35 percent.

(2) For emissions from any lime kiln, periods of excess emissions are all 12-hour average TRS concentration above 8 ppm by volume.

(3) For emissions from any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system periods of excess emissions are:

(i) All 12-hour average TRS concentrations above 5 ppm by volume unless the provisions of 40 CFR 60.283(a)(1) (i), (ii), or (iv) apply; or

(ii) All periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 650° C (1200° F), where the provisions of 40 CFR 60.283(a)(1)(iii) apply.

(e) The Administrator will not consider periods of excess emissions reported under paragraph (d) of this section to be indicative of a violation of 40 CFR 60.11(d) provided that:

(1) The percent of the total number of possible contiguous periods of excess emissions in a quarter (excluding periods of startup, shutdown, or malfunction and periods when the facility is not operating) during which excess emissions occur does not exceed:

(i) One percent for TRS emissions from recovery furnaces.

(ii) Six percent for average opacities from recovery furnaces.

(2) The Administrator determines that the affected facility, including air pollution control equipment, is maintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions.

(f) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems required under this section. All continuous monitoring systems shall be operated in accordance with the applicable procedures under Performance Specifications 1, 3, and 5 of Appendix B of 40 CFR 60.

[43 FR 7572, Feb. 23, 1978, as amended at 51 FR 18545, May 20, 1986; 65 FR 61759, Oct. 17, 2000; 71 FR 55127, Sept. 21, 2006]

<u>40 CFR 60.285 - Test methods and procedures</u>

(a) In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60 or other methods and procedures in this section, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section.

(b) The owner or operator shall determine compliance with the particulate matter standards in 40 CFR 60.282(a) (1) and (3) as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf). Water shall be used as the cleanup solvent instead of acetone in the sample recovery procedure. The particulate concentration shall be corrected to the appropriate oxygen concentration according to 40 CFR 60.284(c)(3).

(2) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the oxygen concentration. The gas sample shall be taken at the same time and at the same traverse points as the particulate sample.

(3) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

(c) The owner or operator shall determine compliance with the particular matter standard in 40 CFR 60.282(a)(2) as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = c_s Q_{sd}/BLS$$

where:

E = emission rate of particulate matter, g/kg (lb/ton) of BLS.

c_s = Concentration of particulate matter, g/dscm (lb/dscf).

Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

BLS = black liquor solids (dry weight) feed rate, kg/hr (ton/hr).

(2) Method 5 shall be used to determine the particulate matter concentration (c_s) and the volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume shall be at least 60 minutes and 0.90 dscm (31.8 dscf). Water shall be used instead of acetone in the sample recovery.

(3) Process data shall be used to determine the black liquor solids (BLS) feed rate on a dry weight basis.

(d) The owner or operator shall determine compliance with the TRS standards in 40 CFR 60.283, except 40 CFR 60.283(a)(1)(vi) and (4), as follows:

1) Method 16 shall be used to determine the TRS concentration. The TRS concentration shall be corrected to the appropriate oxygen concentration using the procedure in 40 CFR 60.284(c)(3). The sampling time shall be at least 3 hours, but no longer than 6 hours.

(2) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the oxygen concentration. The sample shall be taken over the same time period as the TRS samples.

(3) When determining whether a furnace is a straight kraft recovery furnace or a cross recovery furnace, TAPPI Method T.624 (incorporated by reference-see 40 CFR 60.17) shall be used to determine sodium sulfide, sodium hydroxide, and sodium carbonate. These determinations shall be made 3 times daily from the green liquor, and the daily average values shall be converted to sodium oxide (Na_20) and substituted into the following equation to determine the green liquor sulfidity:

$$GLS = 100\ C_{Na_2S}/\left(C_{Na_2S}C_{NaOH}C_{Na_2CO_3}\right)$$

Where:
GLS = green liquor sulfidity, percent.
C_{Na2S} = concentration of Na_2S as Na_2O, mg/liter (gr/gal).
C_{NaOH} = concentration of NaOH as Na_2O, mg/liter (gr/gal).
C_{Na2CO3} = concentration of Na_2CO_3 as Na_2O, mg/liter (gr/gal).

(e) The owner or operator shall determine compliance with the TRS standards in 40 CFR 60.283(a)(1)(vi) and (4) as follows:

(1) The emission rate (E) of TRS shall be computed for each run using the following equation:

$$E=C_{TRS}F\ Q_{sd}/P$$

where:
E = emission rate of TRS, g/kg (lb/ton) of BLS or ADP.
C_{TRS} = average combined concentration of TRS, ppm.
F = conversion factor, 0.001417 g H_2S/m^3 -ppm (8.846×10^{-8}lb H_2S/ft^3 -ppm).
Q_{sd} = volumetric flow rate of stack gas, dscm/hr (dscf/hr).
P = black liquor solids feed or pulp production rate, kg/hr (ton/hr).

(2) Method 16 shall be used to determine the TRS concentration (C_{TRS}).

(3) Method 2 shall be used to determine the volumetric flow rate (Q_{sd}) of the effluent gas.

(4) Process data shall be used to determine the black liquor feed rate or the pulp production rate (P).

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

(1) For Method 5, Method 17 may be used if a constant value of 0.009 g/dscm (0.004 gr/dscf) is added to the results of Method 17 and the stack temperature is no greater than 204° C (400° F).

(2) In place of Method 16, Method 16A or 16B may be used.

[54 FR 6673, Feb. 14, 1989; 54 FR 21344, May 17, 1989, as amended at 55 FR 5212, Feb. 14, 1990; 65 FR 61759, Oct. 17, 2000]

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

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

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

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What This Subpart Covers

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40 CFR 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 40 CFR 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 70 or 40 CFR 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 1068 Subpart C (or the exemptions described in 40 CFR 89 Subpart J and 40 CFR 94 Subpart J, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.
(e) Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.
[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

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Emission Standards for Manufacturers

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

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.
(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.
(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.
(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;
(2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and
(3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

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

(1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and
(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR 94 or, if Table 1 to 40 CFR 1042.1

identifies 40 CFR 1042 as being applicable, 40 CFR 1042, if the engines will be used solely in either or both of the following locations:

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

(2) Marine offshore installations.

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

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

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

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

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

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

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

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

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

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

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

(c) [Reserved]

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

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

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

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

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

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

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

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

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

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

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

(2) Marine offshore installations.

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

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

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40 CFR 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 40 CFR 40 CFR 60.4201 and 60.4202 during the certified emissions life of the engines.

[76 FR 37968, June 28, 2011]

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Emission Standards for Owners and Operators

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

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

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in 40 CFR 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 $n^{-0.2}$ g / KW-hr (34 $n^{-0.2}$ 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 $n^{-0.23}$ g / KW-hr (33 $n^{-0.23}$ 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 $n^{-0.20}$ g / KW-hr (6.7 $n^{-0.20}$ 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 40 CFR 60.4212.

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

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

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

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

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in 40 CFR 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 $n^{-0.2}$ g / KW-hr (34 $n^{-0.2}$ 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 $n^{-0.23}$ g / KW-hr (33 $n^{-0.23}$ 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 40 CFR 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]

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40 CFR 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 40 CFR 60.4204 and 60.4205 over the entire life of the engine.
[76 FR 37969, June 28, 2011]

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Fuel Requirements for Owners and Operators

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40 CFR 60.4207 - What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?
(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).
(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.
(c) [Reserved]
(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).
(e) Stationary CI ICE that have a national security exemption under 40 CFR 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]

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Other Requirements for Owners and Operators

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40 CFR 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 40 CFR 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]

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40 CFR 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 40 CFR 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 40 CFR 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]

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Compliance Requirements

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40 CFR 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 40 CFR 60.4201(a) through (c) and 40 CFR 60.4202(a), (b) and (d) using the certification procedures required in 40 CFR 89 Subpart B, or 40 CFR 1039 Subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in Table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR 89. For the purposes of this subpart, engines certified to the standards in Table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR 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 40 CFR 60.4201(d) and (e) and 40 CFR 60.4202(e) and (f) using the certification procedures required in 40 CFR 94 Subpart C, or 40 CFR 1042 Subpart C, as applicable, and must test their engines as specified in 40 CFR 94 or 1042, as applicable.
(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135, and 40 CFR 1068 for engines that are certified to the emission standards in 40 CFR 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR 89, 40 CFR 94 or 40 CFR 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 89, 94, 1039 or 1042, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR 89, 94, 1039 or 1042, as appropriate, but the words “stationary” must be included instead of “nonroad” or “marine” on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR 89, 94, 1039 or 1042 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

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

(f) Starting with the model years shown in Table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in 40 CFR 60.4202 but does not meet all the emission standards for non-emergency engines in 40 CFR 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 40 CFR 60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.
(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.
[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

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40 CFR 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 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in 40 CFR 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 40 CFR 60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR 89 or 40 CFR 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
(3) Keeping records of engine manufacturer data indicating compliance with the standards.
(4) Keeping records of control device vendor data indicating compliance with the standards.
(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR 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 40 CFR 60.4204(b) or 40 CFR 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 40 CFR 60.4205(c), you must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4204(b), or 40 CFR 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 40 CFR 60.4204(c) or 40 CFR 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 40 CFR 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 40 CFR 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 40 CFR 60.4204(e) or 40 CFR 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 40 CFR 60.4204(e) or 40 CFR 60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in 40 CFR 60.4212 or 40 CFR 60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

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

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

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

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

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011; 78 FR 6695, Jan. 30, 2013]

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Testing Requirements for Owners and Operators

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40 CFR 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 1039 Subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR 1042 Subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 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 1039.

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

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

Where:

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

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

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in 40 CFR 60.4204(a), 40 CFR 60.4205(a), or 40 CFR 60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 60.4204(a), 40 CFR 60.4205(a), or 40 CFR 60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in 40 CFR 60.4204(a), 40 CFR 60.4205(a), or 40 CFR 60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in 40 CFR 60.4204(a), 40 CFR 60.4205(a), or 40 CFR 60.4205(c) may follow the testing procedures specified in 40 CFR 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 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]

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40 CFR 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 40 CFR 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 40 CFR 60.8(c).
(c) You must conduct three separate test runs for each performance test required in this section, as specified in 40 CFR 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:

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

Where:
ER = Emission rate in grams per KW-hour.
C_d = Measured NO_X concentration in ppm.
1.912×10^{-3} = Conversion constant for ppm NO_X to grams per standard cubic meter at 25 degrees Celsius.
Q = Stack gas volumetric flow rate, in standard cubic meter per hour.
T = Time of test run, in hours.
KW-hour = Brake work of the engine, in KW-hour.

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

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

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]

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Notification, Reports, and Records for Owners and Operators

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40 CFR 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 40 CFR 60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

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

(ii) The address of the affected source;

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

(iv) Emission control equipment; and

(v) Fuel used.

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

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

(ii) Maintenance conducted on the engine.

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

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

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

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

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in 40 CFR 60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purposes specified in 40 CFR 60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR 60.4.

[71 FR 39172, July 11, 2006, as amended at 78 FR 6696, Jan. 30, 2013]

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Special Requirements

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40 CFR 60.4215 - hat 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 40 CFR 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 40 CFR 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 $n^{-0.2}$ g / KW-hr (34 $n^{-0.2}$ 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 $n^{-0.23}$ g / KW-hr (33 $n^{-0.23}$ 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]

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40 CFR 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 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in areas of Alaska not accessible by the FAHS may meet the requirements of this subpart by manufacturing and installing engines meeting the requirements of 40 CFR 94 or 1042, as appropriate, rather than the otherwise applicable requirements of 40 CFR 89 and 1039, as indicated in sections 40 CFR 60.4201(f) and 60.4202(g) of this subpart.

(c) Manufacturers, owners and operators of stationary CI ICE that are located in areas of Alaska not accessible by the FAHS may choose to meet the applicable emission standards for emergency engines in 40 CFR 60.4202 and 40 CFR 60.4205, and not those for non-emergency engines in 40 CFR 60.4201 and 40 CFR 60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine that was not certified as meeting Tier 4 PM standards, must meet the applicable requirements for PM in 40 CFR 60.4201 and 40 CFR 60.4204 or install a PM

emission control device that achieves PM emission reductions of 85 percent, or 60 percent for engines with a displacement of greater than or equal to 30 liters per cylinder, compared to engine-out emissions.
(d) The provisions of 40 CFR 60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS.
(e) The provisions of 40 CFR 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 40 CFR 60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.
[76 FR 37971, June 28, 2011]

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40 CFR 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 40 CFR 60.4204 or 40 CFR 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]

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General Provisions

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40 CFR 60.4218 - What parts of the General Provisions apply to me?
Table 8 to this subpart shows which parts of the General Provisions in 40 CFR 60.1 through 60.19 apply to you.

DEFINITIONS

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40 CFR 60.4219 - What definitions apply to this subpart?
As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

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

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

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.
(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.
(3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

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

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

Emergency stationary internal combustion engine means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in 40 CFR 60.4211(f) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in 40 CFR 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 40 CFR 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 40 CFR 60.4211(f)(2)(ii) or (iii) and 40 CFR 60.4211(f)(3)(i).

Engine manufacturer means the manufacturer of the engine. See the definition of “manufacturer” in this section.

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

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

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

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

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

Model year means the calendar year in which an engine is manufactured (see “date of manufacture”), except as follows:
(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see “date of manufacture”), if the annual new model production period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.
(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see “date of manufacture”).

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

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

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

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

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

Subpart means 40 CFR 60 Subpart IIII.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011; 78 FR 6696, Jan. 30, 2013]

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Table 1 to Subpart IIII of 40 CFR 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 40 CFR 60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of < 10 liters per cylinder and 2007-2010 model year engines > 2,237 KW (3,000 HP) and with a displacement of < 10 liters per cylinder in g / KW-hr (g / HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
KW < 8 (HP < 11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8 ≤ KW < 19 (11 ≤ HP < 25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19 ≤ KW < 37 (25 ≤ HP < 50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37 ≤ KW < 56 (50 ≤ HP < 75)			9.2 (6.9)		
56 ≤ KW < 75 (75 ≤ HP < 100)			9.2 (6.9)		
75 ≤ KW < 130 (100 ≤ HP < 175)			9.2 (6.9)		
130 ≤ KW < 225 (175 ≤ HP < 300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225 ≤ KW < 450 (300 ≤ HP < 600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450 ≤ KW ≤ 560 (600 ≤ HP ≤ 750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW > 560 (HP > 750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

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Table 2 to Subpart IIII of 40 CFR 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 40 CFR 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 < 7 KW (50 HP) with a displacement of < 10 liters per cylinder in g / KW-hr (g / HP-hr)			
	Model year(s)	NO_X+ NMHC	CO	PM
KW < 8 (HP < 11)	2008+	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8 ≤ KW < 19 (11≤HP<25)	2008+	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19 ≤ KW < 37 (25 ≤ HP < 50)	2008+	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

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Table 3 to Subpart IIII of 40 CFR 60 - Certification Requirements for Stationary Fire Pump Engines

[As stated in 40 CFR 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 40 CFR 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]

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Table 4 to Subpart IIII of 40 CFR 60 - Emission Standards for Stationary Fire Pump Engines

[As stated in 40 CFR 60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	Model year(s)	NMHC + NO_X	CO	PM
KW < 8 (HP < 11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)

	2011+	7.5 (5.6)		0.40 (0.30)
8 ≤ KW < 19 (11 ≤ HP < 25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	2011+	7.5 (5.6)		0.40 (0.30)
19 ≤ KW < 37 (25 ≤ HP < 50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	2011+	7.5 (5.6)		0.30 (0.22)
37 ≤ KW < 56 (50 ≤ HP < 75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ [1]	4.7 (3.5)		0.40 (0.30)
56 ≤ KW < 75 (75 ≤ HP < 100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ [1]	4.7 (3.5)		0.40 (0.30)
75 ≤ KW < 130 (100 ≤ HP < 175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2010+ [2]	4.0 (3.0)		0.30 (0.22)
130 ≤ KW < 225 (175 ≤ HP < 300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ [3]	4.0 (3.0)		0.20 (0.15)
225 ≤ KW < 450 (300 ≤ HP < 600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ [3]	4.0 (3.0)		0.20 (0.15)
450 ≤ KW ≤ 560 (600 ≤ HP ≤ 750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+	4.0 (3.0)		0.20 (0.15)
KW > 560 (HP > 750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008+	6.4 (4.8)		0.20 (0.15)

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

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

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

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Table 5 to Subpart IIII of 40 CFR 60 - Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in 40 CFR 60.4210(f) and the recordkeeping requirements in 40 CFR 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

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Table 6 to Subpart IIII of 40 CFR 60 - Optional 3-Mode Test Cycle for Stationary Fire Pump Engines
[As stated in 40 CFR 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.

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Table 7 to Subpart IIII of 40 CFR 60 - Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥ 30 Liters per Cylinder
[As stated in 40 CFR 60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥ 30 liters per cylinder:]

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary CI internal combustion engine with a displacement of ≥ 30 liters per cylinder	a. Reduce NO_X emissions by 90 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR 60 Appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2 at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR 60 Appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for NO_X concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and,	(3) Method 4 of 40 CFR 60 Appendix A, Method 320 of 40 CFR 63 Appendix A, or ASTM D 6348-03 (incorporated by reference, see 40 CFR 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	(4) Method 7E of 40 CFR 60 Appendix A, Method 320 of 40 CFR 63 Appendix A, or ASTM D 6348-03 (incorporated by reference, see 40 CFR 60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

	b. Limit the concentration of NO_X in the stationary CI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR 60 Appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location; and,	(2) Method 3, 3A, or 3B of 40 CFR 60 Appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurement for NO_X concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and,	(3) Method 4 of 40 CFR 60 Appendix A, Method 320 of 40 CFR 63 Appendix A, or ASTM D 6348-03 (incorporated by reference, see 40 CFR 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO_X concentration.
		iv. Measure NO_X at the exhaust of the stationary internal combustion engine	(4) Method 7E of 40 CFR 60 Appendix A, Method 320 of 40 CFR 63 Appendix A, or ASTM D 6348-03 (incorporated by reference, see 40 CFR 60.17)	(d) NO_Xconcentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR 60 Appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2 at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR 60 Appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR 60 Appendix A	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device	(4) Method 5 of 40 CFR 60 Appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the	i. Select the sampling	(1) Method 1 or 1A of 40	(a) If using a control device,

	concentration of PM in the stationary CI internal combustion engine exhaust	port location and the number of traverse points;	CFR 60 Appendix A	the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location; and	(2) Method 3, 3A, or 3B of 40 CFR 60 Appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of 40 CFR 60 Appendix A	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine	(4) Method 5 of 40 CFR 60 Appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

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Table 8 to Subpart IIII of 40 CFR 60 - Applicability of General Provisions to Subpart IIII
[As stated in 40 CFR 60.4218, you must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
40 CFR 60.1	General applicability of the General Provisions	Yes	
40 CFR 60.2	Definitions	Yes	Additional terms defined in 40 CFR 60.4219.
40 CFR 60.3	Units and abbreviations	Yes	
40 CFR 60.4	Address	Yes	
40 CFR 60.5	Determination of construction or modification	Yes	
40 CFR 60.6	Review of plans	Yes	
40 CFR 60.7	Notification and Recordkeeping	Yes	Except that 40 CFR 60.7 only applies as specified in 40 CFR 60.4214(a).
40 CFR 60.8	Performance tests	Yes	Except that 40 CFR 60.8 only applies to stationary CI ICE with a displacement of (≥ 30 liters per cylinder and engines that are not certified.
40 CFR 60.9	Availability of information	Yes	

40 CFR 60.10	State Authority	Yes	
40 CFR 60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in Subpart IIII.
40 CFR 60.12	Circumvention	Yes	
40 CFR 60.13	Monitoring requirements	Yes	Except that 40 CFR 60.13 only applies to stationary CI ICE with a displacement of (≥ 30 liters per cylinder.
40 CFR 60.14	Modification	Yes	
40 CFR 60.15	Reconstruction	Yes	
40 CFR 60.16	Priority list	Yes	
40 CFR 60.17	Incorporations by reference	Yes	
40 CFR 60.18	General control device requirements	No	
40 CFR 60.19	General notification and reporting requirements	Yes	

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Title 40: Protection of Environment
PART 63-NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES
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Subpart A-General Provisions
Source: 59 FR 12430, Mar. 16, 1994, unless otherwise noted.

40 CFR 63.1 - Applicability
(a) General

(1) Terms used throughout this part are defined in 40 CFR 63.2 or in the Clean Air Act (Act) as amended in 1990, except that individual Subparts of this part may include specific definitions in addition to or that supersede definitions in 40 CFR 63.2.

(2) This part contains national emission standards for hazardous air pollutants (NESHAP) established pursuant to section 112 of the Act as amended November 15, 1990. These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act. This section explains the applicability of such standards to sources affected by them. The standards in this part are independent of NESHAP contained in 40 CFR 61. The NESHAP in part 61 promulgated by signature of the Administrator before November 15, 1990 (i.e., the date of enactment of the Clean Air Act Amendments of 1990) remain in effect until they are amended, if appropriate, and added to this part.

(3) No emission standard or other requirement established under this part shall be interpreted, construed, or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established by the Administrator pursuant to other authority of the Act (section 111, Part C or D or any other authority of this Act), or a standard issued under State authority. The Administrator may specify in a specific standard under this part that facilities subject to other provisions under the Act need only comply with the provisions of that standard.

(4)

(i) Each relevant standard in 40 CFR 63 must identify explicitly whether each provision in this Subpart A is or is not included in such relevant standard.

(ii) If a relevant 40 CFR 63 standard incorporates the requirements of 40 CFR 60, 61 or other 40 CFR 63 standards, the relevant 40 CFR 63 standard must identify explicitly the applicability of each corresponding 40 CFR 60, 61, or other 40 CFR 63 Subpart A (General) provision.

(iii) The General Provisions in this Subpart A do not apply to regulations developed pursuant to section 112(r) of the amended Act, unless otherwise specified in those regulations.

(5) [Reserved]

(6) To obtain the most current list of categories of sources to be regulated under section 112 of the Act, or to obtain the most recent regulation promulgation schedule established pursuant to section 112(e) of the Act, contact the Office of the Director, Emission Standards Division, Office of Air Quality Planning and Standards, U.S. EPA (MD-13), Research Triangle Park, North Carolina 27711.

(7) - (9) [Reserved]

(10) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word “calendar” is absent, unless otherwise specified in an applicable requirement.

(11) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, test plan, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery agreed to by the permitting authority, is acceptable.

(12) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in 40 CFR 63.9(i).

(b) Initial applicability determination for this part

(1) The provisions of this part apply to the owner or operator of any stationary source that:

(i) Emits or has the potential to emit any hazardous air pollutant listed in or pursuant to section 112(b) of the Act; and

(ii) Is subject to any standard, limitation, prohibition, or other federally enforceable requirement established pursuant to this part.

(2) [Reserved]

(3) An owner or operator of a stationary source who is in the relevant source category and who determines that the source is not subject to a relevant standard or other requirement established under this part must keep a record as specified in 40 CFR 63.10(b)(3).

(c) Applicability of this part after a relevant standard has been set under this part

(1) If a relevant standard has been established under this part, the owner or operator of an affected source must comply with the provisions of that standard and of this Subpart as provided in paragraph (a)(4) of this section.

(2) Except as provided in 40 CFR 63.10(b)(3), if a relevant standard has been established under this part, the owner or operator of an affected source may be required to obtain a Title V permit from a permitting authority in the State in which the source is located. Emission standards promulgated in this part for area sources pursuant to section 112(c)(3) of the Act will specify whether:

(i) States will have the option to exclude area sources affected by that standard from the requirement to obtain a Title V permit (i.e., the standard will exempt the category of area sources altogether from the permitting requirement);

(ii) States will have the option to defer permitting of area sources in that category until the Administrator takes rulemaking action to determine applicability of the permitting requirements; or

(iii) If a standard fails to specify what the permitting requirements will be for area sources affected by such a standard, then area sources that are subject to the standard will be subject to the requirement to obtain a Title V permit without any deferral.

(3) - (4) [Reserved]

(5) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source that is subject to the emission standard or other requirement, such source also shall be subject to the notification requirements of this Subpart.

(d) [Reserved]

(e) If the Administrator promulgates an emission standard under section 112(d) or (h) of the Act that is applicable to a source subject to an emission limitation by permit established under section 112(j) of the Act, and the requirements under the section 112(j) emission limitation are substantially as effective as the promulgated emission standard, the owner or operator may request the permitting authority to revise the source's Title V permit to reflect that the emission limitation in the permit satisfies the requirements of the promulgated emission standard. The process by which the permitting authority determines whether the section 112(j) emission limitation is substantially as effective as the promulgated emission standard must include, consistent with 40 CFR 70 or 71 of this chapter, the opportunity for full public, EPA, and affected State review (including the opportunity for EPA's objection) prior to the permit revision being finalized. A negative determination by the permitting authority constitutes final action for purposes of review and appeal under the applicable title V operating permit program.

[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16595, Apr. 5, 2002]

40 CFR 63.2 - Definitions

The terms used in this part are defined in the Act or in this section as follows:

Act means the Clean Air Act (42 U.S.C. 7401 et seq., as amended by Pub. L. 101-549, 104 Stat. 2399).

Actual emissions is defined in Subpart D of this part for the purpose of granting a compliance extension for an early reduction of hazardous air pollutants.

Administrator means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this part).

Affected source, for the purposes of this part, means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory for which a section 112(d) standard or other relevant standard is established pursuant to section 112 of the Act. Each relevant standard will define the "affected source," as defined in this paragraph unless a different definition is warranted based on a published justification as to why this definition would result in significant administrative, practical, or implementation problems and why the different definition would resolve those problems. The term "affected source," as used in this part, is separate and distinct from any other use of that term in EPA regulations such as those implementing Title IV of the Act. Affected source may be defined differently for part 63 than affected facility and stationary source in 40 CFR 60 and 61, respectively. This definition of "affected source," and the procedures for adopting an alternative definition of "affected source," shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002.

Alternative emission limitation means conditions established pursuant to sections 112(i)(5) or 112(i)(6) of the Act by the Administrator or by a State with an approved permit program.

Alternative emission standard means an alternative means of emission limitation that, after notice and opportunity for public comment, has been demonstrated by an owner or operator to the Administrator's satisfaction to achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such pollutant achieved under a relevant design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act.

Alternative test method means any method of sampling and analyzing for an air pollutant that is not a test method in this chapter and that has been demonstrated to the Administrator's satisfaction, using Method 301 in Appendix A of 40 CFR 63, to produce results adequate for the Administrator's determination that it may be used in place of a test method specified in this part.

Approved permit program means a State permit program approved by the Administrator as meeting the requirements of 40 CFR 70 of this chapter or a Federal permit program established in this chapter pursuant to Title V of the Act (42 U.S.C. 7661).

Area source means any stationary source of hazardous air pollutants that is not a major source as defined in this part.

Commenced means, with respect to construction or reconstruction of an affected source, that an owner or operator has undertaken a continuous program of construction or reconstruction or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or reconstruction.

Compliance date means the date by which an affected source is required to be in compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established by the Administrator (or a State with an approved permit program) pursuant to section 112 of the Act.

Compliance schedule means:

(1) In the case of an affected source that is in compliance with all applicable requirements established under this part, a statement that the source will continue to comply with such requirements; or

(2) In the case of an affected source that is required to comply with applicable requirements by a future date, a statement that the source will meet such requirements on a timely basis and, if required by an applicable requirement, a detailed schedule of the dates by which each step toward compliance will be reached; or

(3) In the case of an affected source not in compliance with all applicable requirements established under this part, a schedule of remedial measures, including an enforceable sequence of actions or operations with milestones and a schedule for the submission of certified progress reports, where applicable, leading to compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established pursuant to section 112 of the Act for which the affected source is not in compliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based.

Construction means the on-site fabrication, erection, or installation of an affected source. Construction does not include the removal of all equipment comprising an affected source from an existing location and reinstallation of such equipment at a new location. The owner or operator of an existing affected source that is relocated may elect not to reinstall minor ancillary equipment including, but not limited to, piping, ductwork, and valves. However, removal and reinstallation of an affected source will be construed as reconstruction if it satisfies the criteria for reconstruction as defined in this section. The costs of replacing minor ancillary equipment must be considered in determining whether the existing affected source is reconstructed.

Continuous emission monitoring system (CEMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of emissions.

Continuous monitoring system (CMS) is a comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by the regulation.

Continuous opacity monitoring system (COMS) means a continuous monitoring system that measures the opacity of emissions.

Continuous parameter monitoring system means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Effective date means:

(1) With regard to an emission standard established under this part, the date of promulgation in the Federal Register of such standard; or

(2) With regard to an alternative emission limitation or equivalent emission limitation determined by the Administrator (or a State with an approved permit program), the date that the alternative emission limitation or equivalent emission limitation becomes effective according to the provisions of this part.

Emission standard means a national standard, limitation, prohibition, or other regulation promulgated in a Subpart of this part pursuant to sections 112(d), 112(h), or 112(f) of the Act.

Emissions averaging is a way to comply with the emission limitations specified in a relevant standard, whereby an affected source, if allowed under a Subpart of this part, may create emission credits by reducing emissions from specific points to a level below that required by the relevant standard, and those credits are used to offset emissions from points that are not controlled to the level required by the relevant standard.

EPA means the United States Environmental Protection Agency.

Equivalent emission limitation means any maximum achievable control technology emission limitation or requirements which are applicable to a major source of hazardous air pollutants and are adopted by the Administrator (or a State with an approved permit program) on a case-by-case basis, pursuant to section 112(g) or (j) of the Act.

Excess emissions and continuous monitoring system performance report is a report that must be submitted periodically by an affected source in order to provide data on its compliance with relevant emission limits, operating parameters, and the performance of its continuous parameter monitoring systems.

Existing source means any affected source that is not a new source.

Federally enforceable means all limitations and conditions that are enforceable by the Administrator and citizens under the Act or that are enforceable under other statutes administered by the Administrator. Examples of federally enforceable limitations and conditions include, but are not limited to:

(1) Emission standards, alternative emission standards, alternative emission limitations, and equivalent emission limitations established pursuant to section 112 of the Act as amended in 1990;

(2) New source performance standards established pursuant to section 111 of the Act, and emission standards established pursuant to section 112 of the Act before it was amended in 1990;

(3) All terms and conditions in a Title V permit, including any provisions that limit a source's potential to emit, unless expressly designated as not federally enforceable;

(4) Limitations and conditions that are part of an approved State Implementation Plan (SIP) or a Federal Implementation Plan (FIP);

(5) Limitations and conditions that are part of a Federal construction permit issued under 40 CFR 52.21 or any construction permit issued under regulations approved by the EPA in accordance with 40 CFR 51;

(6) Limitations and conditions that are part of an operating permit where the permit and the permitting program pursuant to which it was issued meet all of the following criteria:

(i) The operating permit program has been submitted to and approved by EPA into a State implementation plan (SIP) under section 110 of the CAA;

(ii) The SIP imposes a legal obligation that operating permit holders adhere to the terms and limitations of such permits and provides that permits which do not conform to the operating permit program requirements and the requirements of EPA's underlying regulations may be deemed not “federally enforceable” by EPA;

(iii) The operating permit program requires that all emission limitations, controls, and other requirements imposed by such permits will be at least as stringent as any other applicable limitations and requirements contained in the SIP or enforceable under the SIP, and that the program may not issue permits that waive, or make less stringent, any limitations or requirements contained in or issued pursuant to the SIP, or that are otherwise "federally enforceable";

(iv) The limitations, controls, and requirements in the permit in question are permanent, quantifiable, and otherwise enforceable as a practical matter; and

(v) The permit in question was issued only after adequate and timely notice and opportunity for comment for EPA and the public.

(7) Limitations and conditions in a State rule or program that has been approved by the EPA under Subpart E of this part for the purposes of implementing and enforcing section 112; and

(8) Individual consent agreements that the EPA has legal authority to create.

Fixed capital cost means the capital needed to provide all the depreciable components of an existing source.

Force majeure means, for purposes of 40 CFR 63.7, 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 the owner or operator from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the affected facility's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility.

Fugitive emissions means those emissions from a stationary source that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Under section 112 of the Act, all fugitive emissions are to be considered in determining whether a stationary source is a major source.

Hazardous air pollutant means any air pollutant listed in or pursuant to section 112(b) of the Act.

Issuance of a40 CFR 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of 40 CFR 70 of this chapter and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a Title V permit occurs immediately after the EPA takes final action on the final permit.

Major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring 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.

Monitoring means the collection and use of measurement data or other information to control the operation of a process or pollution control device or to verify a work practice standard relative to assuring compliance with applicable requirements. Monitoring is composed of four elements:

(1) Indicator(s) of performance - the parameter or parameters you measure or observe for demonstrating proper operation of the pollution control measures or compliance with the applicable emissions limitation or standard. Indicators of performance may include direct or predicted emissions measurements (including opacity), operational parametric values that correspond to process or control device (and capture system) efficiencies or emissions rates, and recorded findings of inspection of work practice activities, materials tracking, or design characteristics. Indicators may be expressed as a single maximum or minimum value, a function of process variables (for example, within a range of pressure drops), a particular operational or work practice status (for example, a damper position, completion of a waste recovery task, materials tracking), or an interdependency between two or among more than two variables.

(2) Measurement techniques - the means by which you gather and record information of or about the indicators of performance. The components of the measurement technique include the detector type, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement techniques include continuous emission monitoring systems, continuous opacity monitoring systems, continuous parametric monitoring systems, and manual inspections that include making records of process conditions or work practices.

(3) Monitoring frequency - the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally spaced for each hour for continuous emissions or parametric monitoring systems, at least every 10 seconds for continuous opacity monitoring systems, and at least once per operating day (or week, month, etc.) for work practice or design inspections.

(4) Averaging time - the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range, and an instantaneous alarm.

New affected source means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory that is subject to a section 112(d) or other relevant standard for new sources. This definition of "new affected source," and the criteria to be utilized in implementing it, shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002. Each relevant standard will define the term "new affected source," which will be the same as the "affected source" unless a different collection is warranted based on consideration of factors including:

(1) Emission reduction impacts of controlling individual sources versus groups of sources;

(2) Cost effectiveness of controlling individual equipment;

(3) Flexibility to accommodate common control strategies;

(4) Cost/benefits of emissions averaging;

(5) Incentives for pollution prevention;

(6) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices);

(7) Feasibility and cost of monitoring; and

(8) Other relevant factors.

New source means any affected source the construction or reconstruction of which is commenced after the Administrator first proposes a relevant emission standard under this part establishing an emission standard applicable to such source.

One-hour period, unless otherwise defined in an applicable Subpart, means any 60-minute period commencing on the hour.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. For continuous opacity monitoring systems, opacity means the fraction of incident light that is attenuated by an optical medium.

Owner or operator means any person who owns, leases, operates, controls, or supervises a stationary source.

Performance audit means a procedure to analyze blind samples, the content of which is known by the Administrator, simultaneously with the analysis of performance test samples in order to provide a measure of test data quality.

Performance evaluation means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

Permit modification means a change to a Title V permit as defined in regulations codified in this chapter to implement Title V of the Act (42 U.S.C. 7661).

Permit program means a comprehensive State operating permit system established pursuant to Title V of the Act (42 U.S.C. 7661) and regulations codified in 40 CFR 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to Title V of the Act and regulations codified in this chapter.

Permit revision means any permit modification or administrative permit amendment to a Title V permit as defined in regulations codified in this chapter to implement Title V of the Act (42 U.S.C. 7661).

Permitting authority means:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under 40 CFR 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

Pollution Prevention means *source reduction* as defined under the Pollution Prevention Act (42 U.S.C. 13101-13109). The definition is as follows:

(1) *Source reduction* is any practice that:

(i) Reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and

(ii) Reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.

(2) The term *source reduction* includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control.

(3) The term *source reduction* does not include any practice that alters the physical, chemical, or biological characteristics or the volume of a hazardous substance, pollutant, or contaminant through a process or activity which itself is not integral to and necessary for the production of a product or the providing of a service.

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.

Reconstruction, unless otherwise defined in a relevant standard, means the replacement of components of an affected or a previously nonaffected source to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and

(2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

Regulation promulgation schedule means the schedule for the promulgation of emission standards under this part, established by the Administrator pursuant to section 112(e) of the Act and published in the Federal Register.

Relevant standard means:

(1) An emission standard;

(2) An alternative emission standard;

(3) An alternative emission limitation; or

(4) An equivalent emission limitation established pursuant to section 112 of the Act that applies to the collection of equipment, activities, or both regulated by such standard or limitation. A relevant standard may include or consist of a design, equipment, work practice, or operational requirement, or other measure, process, method, system, or technique (including prohibition of emissions) that the Administrator (or a State) establishes for new or existing sources to which such standard or limitation applies. Every relevant standard established pursuant to section 112 of the Act includes Subpart A of this part, as provided by 40 CFR 63.1(a)(4), and all applicable appendices of this part or of other parts of this chapter that are referenced in that standard.

Responsible official means one of the following:

(1) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representative is approved in advance by the Administrator.

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.

(3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the EPA).

(4) For affected sources (as defined in this part) applying for or subject to a Title V permit: “responsible official” shall have the same meaning as defined in 40 CFR 70 or Federal Title V regulations in this chapter (42 U.S.C. 7661), whichever is applicable.

Run means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this part.

Shutdown means the cessation of operation of an affected source or portion of an affected source for any purpose.

Six-minute period means, with respect to opacity determinations, any one of the 10 equal parts of a 1-hour period.

Source at a Performance Track member facility means a major or area source located at a facility which has been accepted by EPA for membership in the Performance Track Program (as described at *www.epa.gov/PerformanceTrack*) and is still a member of the Program. The Performance Track Program is a voluntary program that encourages continuous environmental improvement through the use of environmental management systems, local community outreach, and measurable results.

Standard conditions means a temperature of 293° K (68° F) and a pressure of 101.3 kilopascals (29.92 in. Hg).

Startup means the setting in operation of an affected source or portion of an affected source for any purpose.

State means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement:

(1) The provisions of this part and/or

(2) the permit program established under 40 CFR 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant.

Test method means the validated procedure for sampling, preparing, and analyzing for an air pollutant specified in a relevant standard as the performance test procedure. The test method may include methods described in an Appendix of this chapter, test methods incorporated by reference in this part, or methods validated for an application through procedures in Method 301 of Appendix A of this part.

Title V permit means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement Title V of the Act (42 U.S.C. 7661). A Title V permit issued by a State permitting authority is called a 40 CFR 70 permit in this part.

Visible emission means the observation of an emission of opacity or optical density above the threshold of vision.

Working day means any day on which Federal Government offices (or State government offices for a State that has obtained delegation under section 112(l)) are open for normal business. Saturdays, Sundays, and official Federal (or where delegated, State) holidays are not working days.

[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16596, Apr. 5, 2002; 68 FR 32600, May 30, 2003; 69 FR 21752, Apr. 22, 2004; 72 FR 27443, May 16, 2007]

40 CFR 63.3 - Units and abbreviations

Used in this part are abbreviations and symbols of units of measure. These are defined as follows:

(a) *System International (SI) units of measure:*

A = ampere
g = gram
Hz = hertz
J = joule
°K = degree Kelvin
kg = kilogram
l = liter
m = meter
m^3 = cubic meter
mg = milligram = 10^{-3}gram
ml = milliliter = 10^{-3}liter
mm = millimeter = 10^{-3}meter

Mg = megagram = 10^6 gram = metric ton
MJ = megajoule
mol = mole
N = newton
ng = nanogram = 10^{-9}gram
nm = nanometer = 10^{-9}meter
Pa = pascal
s = second
V = volt
W = watt
Ω = ohm
µg = microgram = 10^{-6}gram
µl = microliter = 10^{-6}liter

(b) *Other units of measure:*
Btu = British thermal unit
°C = degree Celsius (centigrade)
cal = calorie
cfm = cubic feet per minute
cc = cubic centimeter
cu ft = cubic feet
d = day
dcf = dry cubic feet
dcm = dry cubic meter
dscf = dry cubic feet at standard conditions
dscm = dry cubic meter at standard conditions
eq = equivalent
°F degree Fahrenheit
ft = feet
ft^2 = square feet
ft^3 = cubic feet
gal = gallon
gr = grain
g-eq = gram equivalent
g-mole = gram mole
hr = hour
in. = inch
in. H_2O = inches of water
K = 1,000
kcal = kilocalorie
lb = pound
lpm = liter per minute

meq = milliequivalent
min = minute
MW = molecular weight
oz = ounces
ppb = parts per billion
ppbw = parts per billion by weight
ppbv = parts per billion by volume
ppm = parts per million
ppmw = parts per million by weight
ppmv = parts per million by volume
psia = pounds per square inch absolute
psig = pounds per square inch gage
°R = degree Rankine
scf = cubic feet at standard conditions
scfh = cubic feet at standard conditions per hour
scm = cubic meter at standard conditions
scmm = cubic meter at standard conditions per minute
sec = second
sq ft = square feet
std = at standard conditions
v/v = volume per volume
yd^2 = square yards
yr = year

(c) *Miscellaneous:*
act = actual
avg = average
I.D. = inside diameter
M = molar
N = normal
O.D. = outside diameter
% = percent
[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16598, Apr. 5, 2002]

40 CFR 63.4 - Prohibited activities and circumvention

(a) Prohibited activities

(1) No owner or operator subject to the provisions of this part must operate any affected source in violation of the requirements of this part. Affected sources subject to and in compliance with either an extension of compliance or an exemption from compliance are not in violation of the requirements of this part. An extension of compliance can be granted by the Administrator under this part; by a State with an approved permit program; or by the President under section 112(i)(4) of the Act.

(2) No owner or operator subject to the provisions of this part shall fail to keep records, notify, report, or revise reports as required under this part.

(3) - (5) [Reserved]

(b) Circumvention. No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to:

(1) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere;

(2) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions; and

(c) Fragmentation. Fragmentation after November 15, 1990 which divides ownership of an operation, within the same facility among various owners where there is no real change in control, will not affect applicability. The owner and operator must not use fragmentation or phasing of reconstruction activities (i.e., intentionally dividing reconstruction into multiple parts for purposes of avoiding new source requirements) to avoid becoming subject to new source requirements.
[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16598, Apr. 5, 2002]

40 CFR 63.5 - Preconstruction review and notification requirements

(a) Applicability

(1) This section implements the preconstruction review requirements of section 112(i)(1). After the effective date of a relevant standard, promulgated pursuant to section 112(d), (f), or (h) of the Act, under this part, the preconstruction review requirements in this section apply to the owner or operator of new affected sources and reconstructed affected sources that are major-emitting as specified in this section. New and reconstructed affected sources that commence construction or reconstruction before the effective date of a relevant standard are not subject to the preconstruction review requirements specified in paragraphs (b)(3), (d), and (e) of this section.

(2) This section includes notification requirements for new affected sources and reconstructed affected sources that are not major-emitting affected sources and that are or become subject to a relevant promulgated emission standard after the effective date of a relevant standard promulgated under this part.

(b) Requirements for existing, newly constructed, and reconstructed sources

(1) A new affected source for which construction commences after proposal of a relevant standard is subject to relevant standards for new affected sources, including compliance dates. An affected source for which reconstruction commences after proposal of a relevant standard is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

(2) [Reserved]

(3) After the effective date of any relevant standard promulgated by the Administrator under this part, no person may, without obtaining written approval in advance from the Administrator in accordance with the procedures specified in paragraphs (d) and (e) of this section, do any of the following:

(i) Construct a new affected source that is major-emitting and subject to such standard;

(ii) Reconstruct an affected source that is major-emitting and subject to such standard; or

(iii) Reconstruct a major source such that the source becomes an affected source that is major-emitting and subject to the standard.

(4) After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in 40 CFR 63.9(b).

(5) [Reserved]

(6) After the effective date of any relevant standard promulgated by the Administrator under this part, equipment added (or a process change) to an affected source that is within the scope of the definition of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source.

(c) [Reserved]

(d) Application for approval of construction or reconstruction. The provisions of this paragraph implement section 112(i)(1) of the Act.

(1) General application requirements

(i) An owner or operator who is subject to the requirements of paragraph (b)(3) of this section must submit to the Administrator an application for approval of the construction or reconstruction. The application must be submitted as soon as practicable before actual construction or

reconstruction begins. The application for approval of construction or reconstruction may be used to fulfill the initial notification requirements of 40 CFR 63.9(b)(5). The owner or operator may submit the application for approval well in advance of the date actual construction or reconstruction begins in order to ensure a timely review by the Administrator and that the planned date to begin will not be delayed.

(ii) A separate application shall be submitted for each construction or reconstruction. Each application for approval of construction or reconstruction shall include at a minimum:

(A) The applicant's name and address;

(B) A notification of intention to construct a new major affected source or make any physical or operational change to a major affected source that may meet or has been determined to meet the criteria for a reconstruction, as defined in 40 CFR 63.2 or in the relevant standard;

(C) The address (i.e., physical location) or proposed address of the source;

(D) An identification of the relevant standard that is the basis of the application;

(E) The expected date of the beginning of actual construction or reconstruction;

(F) The expected completion date of the construction or reconstruction;

(G) [Reserved]

(H) The type and quantity of hazardous air pollutants emitted by the source, reported in units and averaging times and in accordance with the test methods specified in the relevant standard, or if actual emissions data are not yet available, an estimate of the type and quantity of hazardous air pollutants expected to be emitted by the source reported in units and averaging times specified in the relevant standard. The owner or operator may submit percent reduction information if a relevant standard is established in terms of percent reduction. However, operating parameters, such as flow rate, shall be included in the submission to the extent that they demonstrate performance and compliance; and

(I) [Reserved]

(J) Other information as specified in paragraphs (d)(2) and (d)(3) of this section.

(iii) An owner or operator who submits estimates or preliminary information in place of the actual emissions data and analysis required in paragraphs (d)(1)(ii)(H) and (d)(2) of this section shall submit the actual, measured emissions data and other correct information as soon as available but no later than with the notification of compliance status required in 40 CFR 63.9(h) (see 40 CFR 63.9(h)(5)).

(2) Application for approval of construction. Each application for approval of construction must include, in addition to the information required in paragraph (d)(1)(ii) of this section, technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source, including an identification of each type of emission point for each type of hazardous air pollutant that is emitted (or could reasonably be anticipated to be emitted) and a description of the planned air pollution control system (equipment or method) for each emission point. The description of the equipment to be used for the control of emissions must include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions must include an estimated control efficiency (percent) for that method. Such technical information must include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations.

(3) Application for approval of reconstruction. Each application for approval of reconstruction shall include, in addition to the information required in paragraph (d)(1)(ii) of this section:

(i) A brief description of the affected source and the components that are to be replaced;

(ii) A description of present and proposed emission control systems (i.e., equipment or methods). The description of the equipment to be used for the control of emissions shall include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions shall include an estimated control efficiency (percent) for that method. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations;

(iii) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source;

(iv) The estimated life of the affected source after the replacements; and

(v) A discussion of any economic or technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the Administrator's satisfaction that the technical or economic limitations affect the source's ability to comply with the relevant standard and how they do so.

(vi) If in the application for approval of reconstruction the owner or operator designates the affected source as a reconstructed source and declares that there are no economic or technical limitations to prevent the source from complying with all relevant standards or other requirements, the owner or operator need not submit the information required in paragraphs (d)(3)(iii) through (d)(3)(v) of this section.

(4) Additional information. The Administrator may request additional relevant information after the submittal of an application for approval of construction or reconstruction.

(e) Approval of construction or reconstruction

(1)

(i) If the Administrator determines that, if properly constructed, or reconstructed, and operated, a new or existing source for which an application under paragraph (d) of this section was submitted will not cause emissions in violation of the relevant standard(s) and any other federally enforceable requirements, the Administrator will approve the construction or reconstruction.

(ii) In addition, in the case of reconstruction, the Administrator's determination under this paragraph will be based on:

(A) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new source;

(B) The estimated life of the source after the replacements compared to the life of a comparable entirely new source;

(C) The extent to which the components being replaced cause or contribute to the emissions from the source; and

(D) Any economic or technical limitations on compliance with relevant standards that are inherent in the proposed replacements.

(2)

(i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of construction or reconstruction within 60 calendar days after receipt of sufficient information to evaluate an application submitted under paragraph (d) of this section. The 60-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(3) Before denying any application for approval of construction or reconstruction, the Administrator will notify the applicant of the Administrator's intention to issue the denial together with:

(i) Notice of the information and findings on which the intended denial is based; and

(ii) Notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator to enable further action on the application.

(4) A final determination to deny any application for approval will be in writing and will specify the grounds on which the denial is based. The final determination will be made within 60 calendar days of presentation of additional information or arguments (if the application is complete), or within 60 calendar days after the final date specified for presentation if no presentation is made.

(5) Neither the submission of an application for approval nor the Administrator's approval of construction or reconstruction shall:

(i) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(ii) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(f) Approval of construction or reconstruction based on prior State preconstruction review

(1) Preconstruction review procedures that a State utilizes for other purposes may also be utilized for purposes of this section if the procedures are substantially equivalent to those specified in this section. The Administrator will approve an application for construction or reconstruction specified in paragraphs (b)(3) and (d) of this section if the owner or operator of a new affected source or reconstructed affected source, who is subject to such requirement meets the following conditions:

(i) The owner or operator of the new affected source or reconstructed affected source has undergone a preconstruction review and approval process in the State in which the source is (or would be) located and has received a federally enforceable construction permit that contains a finding that the source will meet the relevant promulgated emission standard, if the source is properly built and operated.

(ii) Provide a statement from the State or other evidence (such as State regulations) that it considered the factors specified in paragraph (e)(1) of this section.

(2) The owner or operator must submit to the Administrator the request for approval of construction or reconstruction under this paragraph (f)(2) no later than the application deadline specified in paragraph (d)(1) of this section (see also 40 CFR 63.9(b)(2)). The owner or operator must include in the request information sufficient for the Administrator's determination. The Administrator will evaluate the owner or operator's request in accordance with the procedures specified in paragraph (e) of this section. The Administrator may request additional relevant information after the submittal of a request for approval of construction or reconstruction under this paragraph (f)(2).

[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16598, Apr. 5, 2002]

40 CFR 63.6 - Compliance with standards and maintenance requirements

(a) Applicability

(1) The requirements in this section apply to the owner or operator of affected sources for which any relevant standard has been established pursuant to section 112 of the Act and the applicability of such requirements is set out in accordance with 40 CFR 63.1(a)(4) unless:

(i) The Administrator (or a State with an approved permit program) has granted an extension of compliance consistent with paragraph (i) of this section; or

(ii) The President has granted an exemption from compliance with any relevant standard in accordance with section 112(i)(4) of the Act.

(2) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source, such source shall be subject to the relevant emission standard or other requirement.

(b) Compliance dates for new and reconstructed sources

(1) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source for which construction or reconstruction commences after proposal of a relevant standard that has an initial startup before the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard not later than the standard's effective date.

(2) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source that has an initial startup after the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard upon startup of the source.

(3) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established under this part pursuant to section 112(d), 112(f), or 112(h) of the Act but before the effective date (that is, promulgation) of such standard shall comply with the relevant emission standard not later than the date 3 years after the effective date if:

(i) The promulgated standard (that is, the relevant standard) is more stringent than the proposed standard; for purposes of this paragraph, a finding that controls or compliance methods are “more stringent” must include control technologies or performance criteria and compliance or compliance assurance methods that are different but are substantially equivalent to those required by the promulgated rule, as determined by the Administrator (or his or her authorized representative); and

(ii) The owner or operator complies with the standard as proposed during the 3-year period immediately after the effective date.

(4) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established pursuant to section 112(d) of the Act but before the proposal date of a relevant standard established pursuant to section 112(f) shall not be required to comply with the section 112(f) emission standard until the date 10 years after the date construction or reconstruction is commenced, except that, if the section 112(f) standard is promulgated more than 10 years after construction or reconstruction is commenced, the owner or operator must comply with the standard as provided in paragraphs (b)(1) and (2) of this section.

(5) The owner or operator of a new source that is subject to the compliance requirements of paragraph (b)(3) or (4) of this section must notify the Administrator in accordance with 40 CFR 63.9(d)

(6) [Reserved]

(7) When an area source becomes a major source by the addition of equipment or operations that meet the definition of new affected source in the relevant standard, the portion of the existing facility that is a new affected source must comply with all requirements of that standard applicable to new sources. The source owner or operator must comply with the relevant standard upon startup.

(c) Compliance dates for existing sources

(1) After the effective date of a relevant standard established under this part pursuant to section 112(d) or 112(h) of the Act, the owner or operator of an existing source shall comply with such standard by the compliance date established by the Administrator in the applicable Subpart(s) of this part. Except as otherwise provided for in section 112 of the Act, in no case will the compliance date established for an existing source in an applicable Subpart of this part exceed 3 years after the effective date of such standard.

(2) If an existing source is subject to a standard established under this part pursuant to section 112(f) of the Act, the owner or operator must comply with the standard by the date 90 days after the standard's effective date, or by the date specified in an extension granted to the source by the Administrator under paragraph (i)(4)(ii) of this section, whichever is later.

(3) - (4) [Reserved]

(5) Except as provided in paragraph (b)(7) of this section, the owner or operator of an area source that increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source shall be subject to relevant standards for existing sources. Such sources must comply by the date specified in the standards for existing area sources that become major sources. If no such compliance date is specified in the standards, the source shall have a period of time to comply with the relevant emission standard that is equivalent to the compliance period specified in the relevant standard for existing sources in existence at the time the standard becomes effective.

(d) [Reserved]

(e) Operation and maintenance requirements

(1)

(i) At all times, including periods of startup, shutdown, and malfunction, 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. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the owner or operator reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable 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 (including the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section), review of operation and maintenance records, and inspection of the source.

(ii) Malfunctions must be corrected as soon as practicable after their occurrence. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.

(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(2) [Reserved]

(3) Startup, shutdown, and malfunction plan

(i) The owner or operator of an affected source must develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with the relevant standard. The startup, shutdown, and malfunction plan does not need to address any scenario that would not cause the source to exceed an applicable emission limitation in the relevant standard. This plan must be developed by the owner or operator by the source's compliance date for that relevant standard. The purpose of the startup, shutdown, and malfunction plan is to:

(A) Ensure that, at all times, the owner or operator operates and maintains each affected source, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;

(B) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and

(C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(ii) [Reserved]

(iii) When actions taken by the owner or operator during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a “checklist,” or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan and describes the actions taken for that event. In addition, the owner or operator must keep records of these events as specified in paragraph 63.10(b), including records of the occurrence and duration of each startup or shutdown (if the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the owner or operator shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in 40 CFR 63.10(d)(5).

(iv) If an action taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then the owner or operator must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with 40 CFR 63.10(d)(5) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator).

(v) The owner or operator must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by the Administrator. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in paragraph (e)(3)(viii) of this section, the owner or operator must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by the Administrator for a period of 5 years after revision of the plan. If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases operation or is otherwise no longer subject to the provisions of this part, the owner or operator must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon

request for inspection and copying by the Administrator. The Administrator may at any time request in writing that the owner or operator submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in the possession of the owner or operator. Upon receipt of such a request, the owner or operator must promptly submit a copy of the requested plan (or a portion thereof) to the Administrator. The owner or operator may elect to submit the required copy of any startup, shutdown, and malfunction plan to the Administrator in an electronic format. If the owner or operator claims that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential must be clearly designated in the submission.

(vi) To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Administrator.

(vii) Based on the results of a determination made under paragraph (e)(1)(i) of this section, the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:

(A) Does not address a startup, shutdown, or malfunction event that has occurred;

(B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;

(C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or

(D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in 40 CFR 63.2.

(viii) The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by 40 CFR 63.10(d)(5). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.

(ix) The Title V permit for an affected source must require that the owner or operator develop a startup, shutdown, and malfunction plan which conforms to the provisions of this part, but may do so by citing to the relevant Subpart or subparagraphs of paragraph (e) of this section. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under 40 CFR 70 or part 71 of this chapter and the elements of the startup, shutdown, and malfunction plan shall not be considered an applicable requirement as defined in 40 CFR 70.2 and 40 CFR 71.2 of this chapter. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act.

(f) Compliance with nonopacity emission standards

(1) Applicability. The non-opacity emission standards set forth in this part shall apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in an applicable Subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the non-opacity emission standards set forth in this part, then that emission point must still be required to comply with the non-opacity emission standards and other applicable requirements.

(2) Methods for determining compliance

(i) The Administrator will determine compliance with nonopacity emission standards in this part based on the results of performance tests conducted according to the procedures in 40 CFR 63.7, unless otherwise specified in an applicable Subpart of this part.

(ii) The Administrator will determine compliance with nonopacity emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in 40 CFR 63.6(e) and applicable Subparts of this part.

(iii) If an affected source conducts performance testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if:

(A) The performance test was conducted within a reasonable amount of time before an initial performance test is required to be conducted under the relevant standard;

(B) The performance test was conducted under representative operating conditions for the source;

(C) The performance test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in 40 CFR 63.7(e) of this Subpart; and

(D) The performance test was appropriately quality-assured, as specified in 40 CFR 63.7(c).

(iv) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by review of records, inspection of the source, and other procedures specified in applicable Subparts of this part.

(v) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, as specified in paragraph (e) of this section and applicable Subparts of this part.

(3) Finding of compliance. The Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard, as specified in paragraphs (f)(1) and (2) of this section, upon obtaining all the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable), and information available to the Administrator pursuant to paragraph (e)(1)(i) of this section.

(g) Use of an alternative nonopacity emission standard

(1) If, in the Administrator's judgment, an owner or operator of an affected source has established that an alternative means of emission limitation will achieve a reduction in emissions of a hazardous air pollutant from an affected source at least equivalent to the reduction in emissions of that pollutant from that source achieved under any design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act, the Administrator will publish in the Federal Register a notice permitting the use of the alternative emission standard for purposes of compliance with the promulgated standard. Any Federal Register notice under this paragraph shall be published only after the public is notified and given the opportunity to comment. Such notice will restrict the permission to the stationary source(s) or category(ies) of sources from which the alternative emission standard will achieve equivalent emission reductions. The Administrator will condition permission in such notice on requirements to assure the proper operation and maintenance of equipment and practices required for compliance with the alternative emission standard and other requirements, including appropriate quality assurance and quality control requirements, that are deemed necessary.

(2) An owner or operator requesting permission under this paragraph shall, unless otherwise specified in an applicable Subpart, submit a proposed test plan or the results of testing and monitoring in accordance with 40 CFR 63.7 and 40 CFR 63.8, a description of the procedures followed in testing or monitoring, and a description of pertinent conditions during testing or monitoring. Any testing or monitoring conducted to request permission to use an alternative nonopacity emission standard shall be appropriately quality assured and quality controlled, as specified in 40 CFR 63.7 and 40 CFR 63.8.

(3) The Administrator may establish general procedures in an applicable Subpart that accomplish the requirements of paragraphs (g)(1) and (g)(2) of this section.

(h) Compliance with opacity and visible emission standards

(1) Applicability. The opacity and visible emission standards set forth in this part must apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in an applicable Subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the opacity and visible emission standards set forth in this part, then that emission point shall still be required to comply with the opacity and visible emission standards and other applicable requirements.

(2) Methods for determining compliance

(i) The Administrator will determine compliance with opacity and visible emission standards in this part based on the results of the test method specified in an applicable Subpart. Whenever a continuous opacity monitoring system (COMS) is required to be installed to determine compliance with numerical opacity emission standards in this part, compliance with opacity emission standards in this part shall be determined by using the results from the COMS. Whenever an opacity emission test method is not specified, compliance with opacity emission standards in this part shall be determined by conducting observations in accordance with Test Method 9 in Appendix A of 40 CFR 60 of this chapter or the method specified in paragraph (h)(7)(ii) of this section. Whenever a visible emission test method is not specified, compliance with visible emission standards in this part shall be determined by conducting observations in accordance with Test Method 22 in Appendix A of 40 CFR 60 of this chapter.

(ii) [Reserved]

(iii) If an affected source undergoes opacity or visible emission testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if:

(A) The opacity or visible emission test was conducted within a reasonable amount of time before a performance test is required to be conducted under the relevant standard;

(B) The opacity or visible emission test was conducted under representative operating conditions for the source;

(C) The opacity or visible emission test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in 40 CFR 63.7(e); and

(D) The opacity or visible emission test was appropriately quality-assured, as specified in 40 CFR 63.7(c) of this section.

(3) [Reserved]

(4) Notification of opacity or visible emission observations. The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting opacity or visible emission observations in accordance with 40 CFR 63.9(f), if such observations are required for the source by a relevant standard.

(5) Conduct of opacity or visible emission observations. When a relevant standard under this part includes an opacity or visible emission standard, the owner or operator of an affected source shall comply with the following:

(i) For the purpose of demonstrating initial compliance, opacity or visible emission observations shall be conducted concurrently with the initial performance test required in 40 CFR 63.7 unless one of the following conditions applies:

(A) If no performance test under 40 CFR 63.7 is required, opacity or visible emission observations shall be conducted within 60 days after achieving the maximum production rate at which a new or reconstructed source will be operated, but not later than 120 days after initial startup of the source, or within 120 days after the effective date of the relevant standard in the case of new sources that start up before the standard's effective date. If no performance test under 40 CFR 63.7 is required, opacity or visible emission observations shall be conducted within 120 days after the compliance date for an existing or modified source; or

(B) If visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under 40 CFR 63.7, or within the time period specified in paragraph (h)(5)(i)(A) of this section, the source's owner or operator shall reschedule the opacity or visible emission observations as soon after the initial performance test, or time period, as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. The rescheduled opacity or

visible emission observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under 40 CFR 63.7. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity or visible emission observations from being made concurrently with the initial performance test in accordance with procedures contained in Test Method 9 or Test Method 22 in Appendix A of 40 CFR 60.

(ii) For the purpose of demonstrating initial compliance, the minimum total time of opacity observations shall be 3 hours (30 6-minute averages) for the performance test or other required set of observations (e.g., for fugitive-type emission sources subject only to an opacity emission standard).

(iii) The owner or operator of an affected source to which an opacity or visible emission standard in this part applies shall conduct opacity or visible emission observations in accordance with the provisions of this section, record the results of the evaluation of emissions, and report to the Administrator the opacity or visible emission results in accordance with the provisions of 40 CFR 63.10(d).

(iv) [Reserved]

(v) Opacity readings of portions of plumes that contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity emission standards.

(6) Availability of records. The owner or operator of an affected source shall make available, upon request by the Administrator, such records that the Administrator deems necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification.

(7) Use of a continuous opacity monitoring system

(i) The owner or operator of an affected source required to use a continuous opacity monitoring system (COMS) shall record the monitoring data produced during a performance test required under 40 CFR 63.7 and shall furnish the Administrator a written report of the monitoring results in accordance with the provisions of 40 CFR 63.10(e)(4).

(ii) Whenever an opacity emission test method has not been specified in an applicable Subpart, or an owner or operator of an affected source is required to conduct Test Method 9 observations (see Appendix A of 40 CFR 60), the owner or operator may submit, for compliance purposes, COMS data results produced during any performance test required under 40 CFR 63.7 in lieu of Method 9 data. If the owner or operator elects to submit COMS data for compliance with the opacity emission standard, he or she shall notify the Administrator of that decision, in writing, simultaneously with the notification under 40 CFR 63.7(b) of the date the performance test is scheduled to begin. Once the owner or operator of an affected source has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent performance tests required under 40 CFR63.7, unless the owner or operator notifies the Administrator in writing to the contrary not later than with the notification under 40 CFR 63.7(b) of the date the subsequent performance test is scheduled to begin.

(iii) For the purposes of determining compliance with the opacity emission standard during a performance test required under 40 CFR 63.7 using COMS data, the COMS data shall be reduced to 6-minute averages over the duration of the mass emission performance test.

(iv) The owner or operator of an affected source using a COMS for compliance purposes is responsible for demonstrating that he/she has complied with the performance evaluation requirements of 40 CFR 63.8(e), that the COMS has been properly maintained, operated, and data quality-assured, as specified in 40 CFR 63.8(c) and 40 CFR 63.8(d), and that the resulting data have not been altered in any way.

(v) Except as provided in paragraph (h)(7)(ii) of this section, the results of continuous monitoring by a COMS that indicate that the opacity at the time visual observations were made was not in excess of the emission standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the affected source proves that, at the time of the alleged violation, the instrument used was properly maintained, as specified in 40 CFR 63.8(c), and met Performance Specification 1 in Appendix B of 40 CFR 60 of this chapter, and that the resulting data have not been altered in any way.

(8) Finding of compliance. The Administrator will make a finding concerning an affected source's compliance with an opacity or visible emission standard upon obtaining all the compliance information required by the relevant standard (including the written reports of the results of the performance tests required by 40 CFR 63.7, the results of Test Method 9 or another required opacity or visible emission test method, the observer certification required

by paragraph (h)(6) of this section, and the continuous opacity monitoring system results, whichever is/are applicable) and any information available to the Administrator needed to determine whether proper operation and maintenance practices are being used.

(9) Adjustment to an opacity emission standard

(i) If the Administrator finds under paragraph (h)(8) of this section that an affected source is in compliance with all relevant standards for which initial performance tests were conducted under 40 CFR 63.7, but during the time such performance tests were conducted fails to meet any relevant opacity emission standard, the owner or operator of such source may petition the Administrator to make appropriate adjustment to the opacity emission standard for the affected source. Until the Administrator notifies the owner or operator of the appropriate adjustment, the relevant opacity emission standard remains applicable.

(ii) The Administrator may grant such a petition upon a demonstration by the owner or operator that—

(A) The affected source and its associated air pollution control equipment were operated and maintained in a manner to minimize the opacity of emissions during the performance tests;

(B) The performance tests were performed under the conditions established by the Administrator; and

(C) The affected source and its associated air pollution control equipment were incapable of being adjusted or operated to meet the relevant opacity emission standard.

(iii) The Administrator will establish an adjusted opacity emission standard for the affected source meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity emission standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity emission standard in theFederal Register.

(iv) After the Administrator promulgates an adjusted opacity emission standard for an affected source, the owner or operator of such source shall be subject to the new opacity emission standard, and the new opacity emission standard shall apply to such source during any subsequent performance tests.

(i) Extension of compliance with emission standards

(1) Until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph, the owner or operator of an affected source subject to the requirements of this section shall comply with all applicable requirements of this part.

(2) Extension of compliance for early reductions and other reductions

(i) Early reductions. Pursuant to section 112(i)(5) of the Act, if the owner or operator of an existing source demonstrates that the source has achieved a reduction in emissions of hazardous air pollutants in accordance with the provisions of Subpart D of this part, the Administrator (or the State with an approved permit program) will grant the owner or operator an extension of compliance with specific requirements of this part, as specified in Subpart D.

(ii) Other reductions. Pursuant to section 112(i)(6) of the Act, if the owner or operator of an existing source has installed best available control technology (BACT) (as defined in section 169(3) of the Act) or technology required to meet a lowest achievable emission rate (LAER) (as defined in section 171 of the Act) prior to the promulgation of an emission standard in this part applicable to such source and the same pollutant (or stream of pollutants) controlled pursuant to the BACT or LAER installation, the Administrator will grant the owner or operator an extension of compliance with such emission standard that will apply until the date 5 years after the date on which such installation was achieved, as determined by the Administrator.

(3) Request for extension of compliance. Paragraphs (i)(4) through (i)(7) of this section concern requests for an extension of compliance with a relevant standard under this part (except requests for an extension of compliance under paragraph (i)(2)(i) of this section will be handled through procedures specified in Subpart D of this part).

(4)

(i)

(A) The owner or operator of an existing source who is unable to comply with a relevant standard established under this part pursuant to section 112(d) of the Act may request that the Administrator (or a State, when the State has an approved 40 CFR 70 permit program and

the source is required to obtain a 40 CFR 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) grant an extension allowing the source up to 1 additional year to comply with the standard, if such additional period is necessary for the installation of controls. An additional extension of up to 3 years may be added for mining waste operations, if the 1-year extension of compliance is insufficient to dry and cover mining waste in order to reduce emissions of any hazardous air pollutant. The owner or operator of an affected source who has requested an extension of compliance under this paragraph and who is otherwise required to obtain a Title V permit shall apply for such permit or apply to have the source's Title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph will be incorporated into the affected source's title V permit according to the provisions of 40 CFR 70 or Federal Title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) Any request under this paragraph for an extension of compliance with a relevant standard must be submitted in writing to the appropriate authority no later than 120 days prior to the affected source's compliance date (as specified in paragraphs (b) and (c) of this section), except as provided for in paragraph (i)(4)(i)(C) of this section. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the date of denial. Emission standards established under this part may specify alternative dates for the submittal of requests for an extension of compliance if alternatives are appropriate for the source categories affected by those standards.

(C) An owner or operator may submit a compliance extension request after the date specified in paragraph (i)(4)(i)(B) of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the information required in paragraph (i)(6)(i) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problems. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(ii) The owner or operator of an existing source unable to comply with a relevant standard established under this part pursuant to section 112(f) of the Act may request that the Administrator grant an extension allowing the source up to 2 years after the standard's effective date to comply with the standard. The Administrator may grant such an extension if he/she finds that such additional period is necessary for the installation of controls and that steps will be taken during the period of the extension to assure that the health of persons will be protected from imminent endangerment. Any request for an extension of compliance with a relevant standard under this paragraph must be submitted in writing to the Administrator not later than 90 calendar days after the effective date of the relevant standard.

(5) The owner or operator of an existing source that has installed BACT or technology required to meet LAER [as specified in paragraph (i)(2)(ii) of this section] prior to the promulgation of a relevant emission standard in this part may request that the Administrator grant an extension allowing the source 5 years from the date on which such installation was achieved, as determined by the Administrator, to comply with the standard. Any request for an extension of compliance with a relevant standard under this paragraph shall be submitted in writing to the Administrator not later than 120 days after the promulgation date of the standard. The Administrator may grant such an extension if he or she finds that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(6)

(i) The request for a compliance extension under paragraph (i)(4) of this section shall include the following information:

(A) A description of the controls to be installed to comply with the standard;

(B) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

(*1*) The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated; and

(*2*) The date by which final compliance is to be achieved.

(*3*) The date by which on-site construction, installation of emission control equipment, or a process change is to be completed; and

(*4*) The date by which final compliance is to be achieved;

(C) - (D)

(ii) The request for a compliance extension under paragraph (i)(5) of this section shall include all information needed to demonstrate to the Administrator's satisfaction that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(7) Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(8) Approval of request for extension of compliance. Paragraphs (i)(9) through (i)(14) of this section concern approval of an extension of compliance requested under paragraphs (i)(4) through (i)(6) of this section.

(9) Based on the information provided in any request made under paragraphs (i)(4) through (i)(6) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with an emission standard, as specified in paragraphs (i)(4) and (i)(5) of this section.

(10) The extension will be in writing and will:

(i) Identify each affected source covered by the extension;

(ii) Specify the termination date of the extension;

(iii) Specify the dates by which steps toward compliance are to be taken, if appropriate;

(iv) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests); and

(v)

(A) Under paragraph (i)(4), specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period; or

(B) Under paragraph (i)(5), specify any additional conditions that the Administrator deems necessary to assure the proper operation and maintenance of the installed controls during the extension period.

(11) The owner or operator of an existing source that has been granted an extension of compliance under paragraph (i)(10) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached. The contents of the progress reports and the dates by which they shall be submitted will be specified in the written extension of compliance granted under paragraph (i)(10) of this section.

(12)

(i) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(i) or (i)(5) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with:

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(iv) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(13)

(i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(ii) of this section. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 15 calendar days after receipt of the original application and within 15 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 15 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator will notify the owner or operator in writing of the Administrator's intention to issue the denial, together with:

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator before further action on the request.

(iv) A final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(14) The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraph (i)(10)(iii) or (iv) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

(i) Notice of the reason for termination; and

(ii) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

(iii) A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30 calendar days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(15) [Reserved]

(16) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the Act.

(j) Exemption from compliance with emission standards. The President may exempt any stationary source from compliance with any relevant standard established pursuant to section 112 of the Act for a period of not more than 2 years if the President determines that the technology to implement such standard is not available and that it is in the national security interests of the United States to do so. An exemption under this paragraph may be extended for 1 or more additional periods, each period not to exceed 2 years.

[59 FR 12430, Mar. 16, 1994, as amended at 67 FR 16599, Apr. 5, 2002; 68 FR 32600, May 30, 2003; 71 FR 20454, Apr. 20, 2006]

40 CFR 63.7 - Performance testing requirements

(a) Applicability and performance test dates

(1) The applicability of this section is set out in 40 CFR 63.1(a)(4).

(2) Except as provided in paragraph (a)(4) of this section, if required to do performance testing by a relevant standard, and unless a waiver of performance testing is obtained under this section or the conditions of paragraph (c)(3)(ii)(B) of this section apply, the owner or operator of the affected source must perform such tests within 180 days of the compliance date for such source.

(i) - (viii) [Reserved]

(ix) Except as provided in paragraph (a)(4) of this section, when an emission standard promulgated under this part is more stringent than the standard proposed (see 40 CFR 63.6(b)(3)), the owner or operator of a new or reconstructed source subject to that standard for which construction or reconstruction is commenced between the proposal and promulgation dates of the standard shall comply with performance testing requirements within 180 days after the standard's effective date, or within 180 days after startup of the source, whichever is later. If the promulgated standard is more stringent than the proposed standard, the owner or operator may choose to demonstrate compliance with either the proposed or the promulgated standard. If the owner or operator chooses to comply with the proposed standard initially, the owner or operator shall conduct a second performance test within 3 years and 180 days after the effective date of the standard, or after startup of the source, whichever is later, to demonstrate compliance with the promulgated standard.

(3) The Administrator may require an owner or operator to conduct performance tests at the affected source at any other time when the action is authorized by section 114 of the Act.

(4) If a force majeure is about to occur, occurs, or has occurred for which the affected owner or operator intends to assert a claim of force majeure:

(i) The owner or operator shall notify the Administrator, in writing as soon as practicable following the date the owner or operator first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline specified in paragraph (a)(2) or (a)(3) of this section, or elsewhere in this part, but the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall occur as soon as practicable.

(ii) The owner or operator shall provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in testing beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which the owner or operator proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure occurs.

(iii) The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Administrator. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an extension as soon as practicable.

(iv) Until an extension of the performance test deadline has been approved by the Administrator under paragraphs (a)(4)(i), (a)(4)(ii), and (a)(4)(iii) of this section, the owner or operator of the affected facility remains strictly subject to the requirements of this part.

(b) Notification of performance test

(1) The owner or operator of an affected source must notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is initially scheduled to begin to allow the Administrator, upon request, to review an approve the site-specific test plan required under paragraph (c) of this section and to have an observer present during the test.

(2) In the event the owner or operator is unable to conduct the performance test on the date specified in the notification requirement specified in paragraph (b)(1) of this section due to unforeseeable circumstances beyond his or her control, the owner or operator must notify the Administrator as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. This notification of delay in conducting the performance test shall not relieve the owner or operator of legal responsibility for compliance with any other applicable provisions of this part or with any other applicable Federal, State, or local requirement, nor will it prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(c) Quality assurance program

(1) The results of the quality assurance program required in this paragraph will be considered by the Administrator when he/she determines the validity of a performance test.

(2)

(i) Submission of site-specific test plan. Before conducting a required performance test, the owner or operator of an affected source shall develop and, if requested by the Administrator, shall submit a site-specific test plan to the Administrator for approval. The test plan shall include a test program summary, the test schedule, data quality objectives, and both an internal and external quality assurance (QA) program. Data quality objectives are the pretest expectations of precision, accuracy, and completeness of data.

(ii) The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of test data precision; an example of internal QA is the sampling and analysis of replicate samples.

(iii) The performance testing shall include a test method performance audit (PA) during the performance test. The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. Gaseous audit samples are designed to audit the performance of the sampling system as well as the analytical system and must be collected by the sampling system during the compliance test just as the compliance samples are collected. If a liquid or solid audit sample is designed to audit the sampling system, it must also be collected by the sampling system during the compliance test. If multiple sampling systems or sampling trains are used during the compliance test for any of the test methods, the tester is only required to use one of the sampling systems per method to collect the audit sample. The audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system and at the same time as the compliance samples. Retests are required when there is a failure to produce acceptable results for an audit sample. However, if the audit results do not affect the compliance or noncompliance status of the affected facility, the compliance authority may waive the reanalysis requirement, further audits, or retests and accept the results of the compliance test. Acceptance of the test results shall constitute a waiver of the reanalysis requirement, further audits, or retests. The compliance authority may also use the audit sample failure and the compliance test results as evidence to determine the compliance or noncompliance status of the affected facility. A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after they report the measured value of the audit sample. For pollutants that exist in the gas phase at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in air or nitrogen that can be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source. If no gas phase audit samples are available, an acceptable alternative is a sample of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. For samples that exist only in a liquid or solid form at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.

(A) The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. No audit samples are required for the following test methods: Methods 3C of Appendix A-3 of 40 CFR 60, Methods 6C, 7E, 9, and 10 of Appendix A-4 of 40 CFR 60, Method 18 of Appendix A-6 of 40 CFR 60, Methods 20, 22, and 25A of Appendix A-7 of 40 CFR 60, and Methods 303, 318, 320, and 321 of Appendix A of 40 CFR 63. If multiple sources at a single facility are tested during a compliance test event, only one audit sample is required for each method used during a compliance test. The compliance authority responsible for the compliance test may waive the requirement to include an audit sample if they believe that an audit sample is not necessary. “Commercially available” means that two or more independent AASPs have blind audit samples available for purchase. If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, *http://www.epa.gov/ttn/emc,* to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test. When ordering an audit sample, the source owner, operator, or representative shall give the sample provider an estimate for the concentration of each pollutant that is emitted by the

source or the estimated concentration of each pollutant based on the permitted level and the name, address, and phone number of the compliance authority. The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The source owner, operator, or representative shall make both reports at the same time and in the same manner or shall report to the compliance authority first and report to the AASP. If the method being audited is a method that allows the samples to be analyzed in the field and the tester plans to analyze the samples in the field, the tester may analyze the audit samples prior to collecting the emission samples provided a representative of the compliance authority is present at the testing site. The tester may request and the compliance authority may grant a waiver to the requirement that a representative of the compliance authority must be present at the testing site during the field analysis of an audit sample. The source owner, operator, or representative may report the results of the audit sample to the compliance authority and then report the results of the audit sample to the AASP prior to collecting any emission samples. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

(B) An AASP shall have and shall prepare, analyze, and report the true value of audit samples in accordance with a written technical criteria document that describes how audit samples will be prepared and distributed in a manner that will ensure the integrity of the audit sample program. An acceptable technical criteria document shall contain standard operating procedures for all of the following operations:

(1) Preparing the sample;

(2) Confirming the true concentration of the sample;

(3) Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range;

(4) Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;

(*5*) Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;

(*6*) Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;

(*7*) Reporting the results from each audit sample in a timely manner to the compliance authority and to the source owner, operator, or representative by the AASP. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.

(*8*) Evaluating the acceptance limits of samples at least once every two years to determine in consultation with the voluntary consensus standard body if they should be changed.

(*9*) Maintaining a database, accessible to the compliance authorities, of results from the audit that shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, the true value of the audit sample, the acceptance range for the measured value, and whether the testing company passed or failed the audit.

(C) The accrediting body shall have a written technical criteria document that describes how it will ensure that the AASP is operating in accordance with the AASP technical criteria document that describes how audit samples are to be prepared and distributed. This document shall contain standard operating procedures for all of the following operations:

(*1*) Checking audit samples to confirm their true value as reported by the AASP.

(*2*) Performing technical systems audits of the AASP's facilities and operating procedures at least once every two years.

(*3*) Providing standards for use by the voluntary consensus standard body to approve the accrediting body that will accredit the audit sample providers.

(D) The technical criteria documents for the accredited sample providers and the accrediting body shall be developed through a public process guided by a voluntary consensus standards body (VCSB). The VCSB shall operate in accordance with the procedures and requirements in the Office of Management and Budget Circular A-119. A copy of Circular A-119 is available upon request by writing the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, DC 20503, by calling (202) 395-6880 or downloading online at http://standards.gov/standards_gov/a119.cfm. The VCSB shall approve all accrediting bodies. The Administrator will review all technical criteria documents. If the technical criteria documents do not meet the minimum technical requirements in paragraphs (c)(2)(iii)(B) through (C) of this section, the technical criteria documents are not acceptable and the proposed audit sample program is not capable of producing audit samples of sufficient quality to be used in a compliance test. All acceptable technical criteria documents shall be posted on the EPA Web site at the following URL, http://www.epa.gov/ttn/emc.

(iv) The owner or operator of an affected source shall submit the site-specific test plan to the Administrator upon the Administrator's request at least 60 calendar days before the performance test is scheduled to take place, that is, simultaneously with the notification of intention to conduct a performance test required under paragraph (b) of this section, or on a mutually agreed upon date.

(v) The Administrator may request additional relevant information after the submittal of a site-specific test plan.

(3) Approval of site-specific test plan

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the site-specific test plan (if review of the site-specific test plan is requested) within 30 calendar days after receipt of the original plan and within 30 calendar days after receipt of any supplementary information that is submitted under paragraph (c)(3)(i)(B) of this section. Before disapproving any site-specific test plan, the Administrator will notify the applicant of the Administrator's intention to disapprove the plan together with:

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present, within 30 calendar days after he/she is notified of the intended disapproval, additional information to the Administrator before final action on the plan.

(ii) In the event that the Administrator fails to approve or disapprove the site-specific test plan within the time period specified in paragraph (c)(3)(i) of this section, the following conditions shall apply:

(A) If the owner or operator intends to demonstrate compliance using the test method(s) specified in the relevant standard or with only minor changes to those tests methods (see paragraph (e)(2)(i) of this section), the owner or operator must conduct the performance test within the time specified in this section using the specified method(s);

(B) If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator approves the use of the alternative method when the Administrator approves the site-specific test plan (if review of the site-specific test plan is requested) or after the alternative method is approved (see paragraph (f) of this section). However, the owner or operator is authorized to conduct the performance test using an alternative method in the absence of notification of approval 45 days after submission of the site-specific test plan or request to use an alternative method. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.

(iii) Neither the submission of a site-specific test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator's failure to approve or disapprove a plan in a timely manner shall:

(A) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(B) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(d) Performance testing facilities. If required to do performance testing, the owner or operator of each new source and, at the request of the Administrator, the owner or operator of each existing source, shall provide performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such source. This includes:

(i) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and

(ii) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures;

(2) Safe sampling platform(s);

(3) Safe access to sampling platform(s);

(4) Utilities for sampling and testing equipment; and

(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.

(e) Conduct of performance tests

(1) Performance tests 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. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test, nor shall emissions in excess of the level of the relevant standard during periods of startup, shutdown, and malfunction be considered a violation of the relevant standard unless otherwise specified in the relevant standard or a determination of noncompliance is made under 40 CFR 63.6(e). 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.

(2) Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in this section, in each relevant standard, and, if required, in applicable appendices of 40 CFR 51, 60, 61, and 63 of this chapter unless the Administrator:

(i) Specifies or approves, in specific cases, the use of a test method with minor changes in methodology (see definition in 40 CFR 63.90(a)). Such changes may be approved in conjunction with approval of the site-specific test plan (see paragraph (c) of this section); or

(ii) Approves the use of an intermediate or major change or alternative to a test method (see definitions in 40 CFR 63.90(a)), the results of which the Administrator has determined to be adequate for indicating whether a specific affected source is in compliance; or

(iii) Approves shorter sampling times or smaller sample volumes when necessitated by process variables or other factors; or

(iv) Waives the requirement for performance tests because the owner or operator of an affected source has demonstrated by other means to the Administrator's satisfaction that the affected source is in compliance with the relevant standard.

(3) Unless otherwise specified in a relevant standard or test method, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the relevant standard. For the purpose of determining compliance with a relevant standard, the arithmetic mean of the results of the three runs shall apply. Upon receiving approval from the Administrator, results of a test run may be replaced with results of an additional test run in the event that:

(i) A sample is accidentally lost after the testing team leaves the site; or

(ii) Conditions occur in which one of the three runs must be discontinued because of forced shutdown; or

(iii) Extreme meteorological conditions occur; or

(iv) Other circumstances occur that are beyond the owner or operator's control.

(4) Nothing in paragraphs (e)(1) through (e)(3) of this section shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(f) Use of an alternative test method

(1) General. Until authorized to use an intermediate or major change or alternative to a test method, the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) The owner or operator of an affected source required to do performance testing by a relevant standard may use an alternative test method from that specified in the standard provided that the owner or operator:

(i) Notifies the Administrator of his or her intention to use an alternative test method at least 60 days before the performance test is scheduled to begin;

(ii) Uses Method 301 in Appendix A of this part to validate the alternative test method. This may include the use of specific procedures of Method 301 if use of such procedures are sufficient to validate the alternative test method; and

(iii) Submits the results of the Method 301 validation process along with thnotification of intention and the justification for not using the specified test method. The owner or operator may submit the information required in this paragraph well in advance of the deadline specified in paragraph (f)(2)(i) of this section to ensure a timely review by the Administrator in order to meet the performance test date specified in this section or the relevant standard.

(3) The Administrator will determine whether the owner or operator's validation of the proposed alternative test method is adequate and issue an approval or disapproval of the alternative test method. If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator approves the use of the alternative method. However, the owner or operator is authorized to conduct the performance test using an alternative method in the absence of notification of approval/disapproval 45 days after submission of the request to use an alternative method and the request satisfies the requirements in paragraph (f)(2) of this section. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.

(4) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative test method for the purposes of demonstrating compliance with a relevant standard, the Administrator may require the use of a test method specified in a relevant standard.

(5) If the owner or operator uses an alternative test method for an affected source during a required performance test, the owner or operator of such source shall continue to use the alternative test method for subsequent performance tests at that affected source until he or she receives approval from the Administrator to use another test method as allowed under 40 CFR 63.7(f).

(6) Neither the validation and approval process nor the failure to validate an alternative test method shall abrogate the owner or operator's responsibility to comply with the requirements of this part.

(g) Data analysis, recordkeeping, and reporting

(1) Unless otherwise specified in a relevant standard or test method, or as otherwise approved by the Administrator in writing, results of a performance test shall include the analysis of samples, determination of emissions, and raw data. A performance test is “completed” when field sample collection is terminated. The owner or operator of an affected source shall report the results of the performance test to the Administrator before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator (see 40 CFR 63.9(i)). The results of the performance test shall be submitted as part of the notification of compliance status required under 40 CFR 63.9(h). Before a Title V permit has been issued to the owner or operator of an affected source, the owner or operator shall send the results of the performance test to the Administrator. After a Title V permit has been issued to the owner or operator of an affected source, the owner or operator shall send the results of the performance test to the appropriate permitting authority.

(2) [Reserved]

(3) For a minimum of 5 years after a performance test is conducted, the owner or operator shall retain and make available, upon request, for inspection by the Administrator the records or results of such performance test and other data needed to determine emissions from an affected source.

(h) Waiver of performance tests

(1) Until a waiver of a performance testing requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) Request to waive a performance test

(i) If a request is made for an extension of compliance under 40 CFR 63.6(i), the application for a waiver of an initial performance test shall accompany the information required for the request for an extension of compliance. If no extension of compliance is requested or if the owner or operator has requested an extension of compliance and the Administrator is still considering that request, the application for a waiver of an initial performance test shall be submitted at least 60 days before the performance test if the site-specific test plan under paragraph (c) of this section is not submitted.

(ii) If an application for a waiver of a subsequent performance test is made, the application may accompany any required compliance progress report, compliance status report, or excess emissions and continuous monitoring system performance report [such as those required under 40 CFR 63.6(i), 40 CFR 63.9(h), and 40 CFR 63.10(e) or specified in a relevant standard or in the source's Title V permit], but it shall be submitted at least 60 days before the performance test if the site-specific test plan required under paragraph (c) of this section is not submitted.

(iii) Any application for a waiver of a performance test shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected source performing the required test.

(4) Approval of request to waive performance test. The Administrator will approve or deny a request for a waiver of a performance test made under paragraph (h)(3) of this section when he/she—

(i) Approves or denies an extension of compliance under 40 CFR 63.6(i)(8); or

(ii) Approves or disapproves a site-specific test plan under 40 CFR 63.7(c)(3); or

(iii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iv) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

[59 FR 12430, Mar. 16, 1994, as amended at 65 FR 62215, Oct. 17, 2000; 67 FR 16602, Apr. 5, 2002; 72 FR 27443, May 16, 2007; 75 FR 55655, Sept. 13, 2010]

40 CFR 63.8 - Monitoring requirements

(a) Applicability

(1) The applicability of this section is set out in 40 CFR 63.1(a)(4).

(2) For the purposes of this part, all CMS required under relevant standards shall be subject to the provisions of this section upon promulgation of performance specifications for CMS as specified in the relevant standard or otherwise by the Administrator.

(3) [Reserved]

(4) Additional monitoring requirements for control devices used to comply with provisions in relevant standards of this part are specified in 40 CFR63.11.

(b) Conduct of monitoring

(1) Monitoring shall be conducted as set forth in this section and the relevant standard(s) unless the Administrator:

(i) Specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures (see 40 CFR 63.90(a) for definition); or

(ii) Approves the use of an intermediate or major change or alternative to any monitoring requirements or procedures (see 40 CFR 63.90(a) for definition).

(iii) Owners or operators with flares subject to 40 CFR 63.11(b) are not subject to the requirements of this section unless otherwise specified in the relevant standard.

(2)

(i) When the emissions from two or more affected sources are combined before being released to the atmosphere, the owner or operator may install an applicable CMS for each emission stream or for the combined emissions streams, provided the monitoring is sufficient to demonstrate compliance with the relevant standard.

(ii) If the relevant standard is a mass emission standard and the emissions from one affected source are released to the atmosphere through more than one point, the owner or operator must install an applicable CMS at each emission point unless the installation of fewer systems is:

(A) Approved by the Administrator; or

(B) Provided for in a relevant standard (e.g., instead of requiring that a CMS be installed at each emission point before the effluents from those points are channeled to a common control device, the standard specifies that only one CMS is required to be installed at the vent of the control device).

(3) When more than one CMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CMS. However, when one CMS is used as a backup to another CMS, the owner or operator shall report the results from the CMS used to meet the monitoring requirements of this part. If both such CMS are used during a particular reporting period to meet the monitoring requirements of this part, then the owner or operator shall report the results from each CMS for the relevant compliance period.

(c) Operation and maintenance of continuous monitoring systems

(1) The owner or operator of an affected source shall maintain and operate each CMS as specified in this section, or in a relevant standard, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of an affected source must maintain and operate each CMS as specified in 40 CFR 63.6(e)(1).

(ii) The owner or operator must keep the necessary parts for routine repairs of the affected CMS equipment readily available.

(iii) The owner or operator of an affected source must develop a written startup, shutdown, and malfunction plan for CMS as specified in 40 CFR 63.6(e)(3).

(2)

(i) All CMS must be installed such that representative measures of emissions or process parameters from the affected source are obtained. In addition, CEMS must be located according to procedures contained in the applicable performance specification(s).

(ii) Unless the individual Subpart states otherwise, the owner or operator must ensure the read out (that portion of the CMS that provides a visual display or record), or other indication of operation, from any CMS required for compliance with the emission standard is readily accessible on site for operational control or inspection by the operator of the equipment.

(3) All CMS shall be installed, operational, and the data verified as specified in the relevant standard either prior to or in conjunction with conducting performance tests under 40 CFR 63.7. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(4) Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all CMS, including COMS and CEMS, shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

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

(ii) All CEMS for measuring emissions other than opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(5) Unless otherwise approved by the Administrator, minimum procedures for COMS shall include a method for producing a simulated zero opacity condition and an upscale (high-level) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of all the analyzer's internal optical surfaces and all electronic circuitry, including the lamp and photodetector assembly normally used in the measurement of opacity.

(6) The owner or operator of a CMS that is not a CPMS, which is installed in accordance with the provisions of this part and the applicable CMS performance specification(s), must check the zero (low-level) and high-level calibration drifts at least once daily in accordance with the written procedure specified in the performance evaluation plan developed under paragraphs (e)(3)(i) and (ii) of this section. The zero (low-level) and high-level calibration drifts must be adjusted, at a minimum, whenever the 24-hour zero (low-level) drift exceeds two times the limits of the applicable performance specification(s) specified in the relevant standard. The system shall allow the amount of excess zero (low-level) and high-level drift measured at the 24-hour interval checks to be recorded and quantified whenever specified. For COMS, all optical and instrumental surfaces exposed to the effluent gases must be cleaned prior to performing the zero (low-level) and high-level drift adjustments; the optical surfaces and instrumental surfaces must be cleaned when the cumulative automatic zero compensation, if applicable, exceeds 4 percent opacity. The CPMS must be calibrated prior to use for the purposes of complying with this section. The CPMS must be checked daily for indication that the system is responding. If the CPMS system includes an internal system check, results must be recorded and checked daily for proper operation.

(7)

(i) A CMS is out of control if:

(A) The zero (low-level), mid-level (if applicable), or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard; or

(B) The CMS fails a performance test audit (e.g., cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit; or

(C) The COMS CD exceeds two times the limit in the applicable performance specification in the relevant standard.

(ii) When the CMS is out of control, the owner or operator of the affected source shall take the necessary corrective action and shall repeat all necessary tests which indicate that the system is out of control. The owner or operator shall take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour the owner or operator conducts a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits. During the period the CMS is out of control, recorded data shall not be used in data averages and calculations, or to meet any data availability requirement established under this part.

(8) The owner or operator of a CMS that is out of control as defined in paragraph (c)(7) of this section shall submit all information concerning out-of-control periods, including start and end dates and hours and descriptions of corrective actions taken, in the excess emissions and continuous monitoring system performance report required in 40 CFR63.10(e)(3).

(d) Quality control program

(1) The results of the quality control program required in this paragraph will be considered by the Administrator when he/she determines the validity of monitoring data.

(2) The owner or operator of an affected source that is required to use a CMS and is subject to the monitoring requirements of this section and a relevant standard shall develop and implement a CMS quality control program. As part of the quality control program, the owner or operator shall develop and submit to the Administrator for approval upon request a site-specific performance evaluation test plan for the CMS performance evaluation required in paragraph (e)(3)(i) of this section, according to the procedures specified in paragraph (e). In addition, each quality control program shall include, at a minimum, a written protocol that describes procedures for each of the following operations:

(i) Initial and any subsequent calibration of the CMS;

(ii) Determination and adjustment of the calibration drift of the CMS;

(iii) Preventive maintenance of the CMS, including spare parts inventory;

(iv) Data recording, calculations, and reporting;

(v) Accuracy audit procedures, including sampling and analysis methods; and

(vi) Program of corrective action for a malfunctioning CMS.

(3) The owner or operator shall keep these written procedures 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, the owner or operator shall 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. Where relevant, e.g., program of corrective action for a malfunctioning CMS, these written procedures may be incorporated as part of the affected source's startup, shutdown, and malfunction plan to avoid duplication of planning and recordkeeping efforts.

(e) Performance evaluation of continuous monitoring systems

(1) General. When required by a relevant standard, and at any other time the Administrator may require under section 114 of the Act, the owner or operator of an affected source being monitored shall conduct a performance evaluation of the CMS. Such performance evaluation shall be conducted according to the applicable specifications and procedures described in this section or in the relevant standard.

(2) Notification of performance evaluation. The owner or operator shall notify the Administrator in writing of the date of the performance evaluation simultaneously with the notification of the performance test date required under 40 CFR 63.7(b) or at least 60 days prior to the date the performance evaluation is scheduled to begin if no performance test is required.

(3)

(i) Submission of site-specific performance evaluation test plan. Before conducting a required CMS performance evaluation, the owner or operator of an affected source shall develop and submit a site-specific performance evaluation test plan to the Administrator for approval upon request. The performance evaluation test plan shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external QA program. Data quality objectives are the pre-evaluation expectations of precision, accuracy, and completeness of data.

(ii) The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of CMS performance. The external QA program shall include, at a minimum, systems audits that include the opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

(iii) The owner or operator of an affected source shall submit the site-specific performance evaluation test plan to the Administrator (if requested) at least 60 days before the performance test or performance evaluation is scheduled to begin, or on a mutually agreed upon date, and review and approval of the performance evaluation test plan by the Administrator will occur with the review and approval of the site-specific test plan (if review of the site-specific test plan is requested).

(iv) The Administrator may request additional relevant information after the submittal of a site-specific performance evaluation test plan.

(v) In the event that the Administrator fails to approve or disapprove the site-specific performance evaluation test plan within the time period specified in 40 CFR 63.7(c)(3), the following conditions shall apply:

(A) If the owner or operator intends to demonstrate compliance using the monitoring method(s) specified in the relevant standard, the owner or operator shall conduct the performance evaluation within the time specified in this Subpart using the specified method(s);

(B) If the owner or operator intends to demonstrate compliance by using an alternative to a monitoring method specified in the relevant standard, the owner or operator shall refrain from conducting the performance evaluation until the Administrator approves the use of the alternative method. If the Administrator does not approve the use of the alternative method within 30 days before the performance evaluation is scheduled to begin, the performance evaluation deadlines specified in paragraph (e)(4) of this section may be extended such that the owner or operator shall conduct the performance evaluation within 60 calendar days after the Administrator approves the use of the alternative method. Notwithstanding the requirements in the preceding two sentences, the owner or operator may proceed to conduct the performance evaluation as required in this section (without the Administrator's prior approval of the site-specific performance evaluation test plan) if he/she subsequently chooses to use the specified monitoring method(s) instead of an alternative.

(vi) Neither the submission of a site-specific performance evaluation test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator's failure to approve or disapprove a plan in a timely manner shall:

(A) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(B) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(4) Conduct of performance evaluation and performance evaluation dates. The owner or operator of an affected source shall conduct a performance evaluation of a required CMS during any performance test required under 40 CFR 63.7 in accordance with the applicable performance specification as specified in the relevant standard. Notwithstanding the requirement in the previous sentence, if the owner or operator of an affected source elects to submit COMS data for compliance with a relevant opacity emission standard as provided under 40 CFR 63.6(h)(7), he/she shall conduct a performance evaluation of the COMS as specified in the relevant standard, before the performance test required under 40 CFR 63.7 is conducted in time to submit the results of the performance evaluation as specified in paragraph (e)(5)(ii) of this section. If a performance test is not required, or the requirement for a performance test has been waived under 40 CFR 63.7(h), the owner or operator of an affected source shall conduct the performance evaluation not later than 180 days after the appropriate compliance date for the affected source, as specified in 40 CFR 63.7(a), or as otherwise specified in the relevant standard.

(5) Reporting performance evaluation results

(i) The owner or operator shall furnish the Administrator a copy of a written report of the results of the performance evaluation simultaneously with the results of the performance test required under 40 CFR 63.7 or within 60 days of completion of the performance evaluation if no test is required, unless otherwise specified in a relevant standard. The Administrator may request that the owner or operator submit the raw data from a performance evaluation in the report of the performance evaluation results.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under 40 CFR 63.7 and described in 40 CFR 63.6(d)(6) shall furnish the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation under this paragraph. The copies shall be provided at least 15 calendar days before the performance test required under 40 CFR 63.7 is conducted.

(f) Use of an alternative monitoring method

(1) General. Until permission to use an alternative monitoring procedure (minor, intermediate, or major changes; see definition in 40 CFR 63.90(a)) has been granted by the Administrator under this paragraph (f)(1), the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this part including, but not limited to, the following:

(i) Alternative monitoring requirements when installation of a CMS specified by a relevant standard would not provide accurate measurements due to liquid water or other interferences caused by substances within the effluent gases;

(ii) Alternative monitoring requirements when the affected source is infrequently operated;

(iii) Alternative monitoring requirements to accommodate CEMS that require additional measurements to correct for stack moisture conditions;

(iv) Alternative locations for installing CMS when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements;

(v) Alternate methods for converting pollutant concentration measurements to units of the relevant standard;

(vi) Alternate procedures for performing daily checks of zero (low-level) and high-level drift that do not involve use of high-level gases or test cells;

(vii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified by any relevant standard;

(viii) Alternative CMS that do not meet the design or performance requirements in this part, but adequately demonstrate a definite and consistent relationship between their measurements and the measurements of opacity by a system complying with the requirements as specified in the relevant standard. The Administrator may require that such demonstration be performed for each affected source; or

(ix) Alternative monitoring requirements when the effluent from a single affected source or the combined effluent from two or more affected sources is released to the atmosphere through more than one point.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in this section or in the relevant standard. If the results of the specified and alternative method, requirement, or procedure do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

(4)

(i) Request to use alternative monitoring procedure. An owner or operator who wishes to use an alternative monitoring procedure must submit an application to the Administrator as described in paragraph (f)(4)(ii) of this section. The application may be submitted at any time provided that the monitoring procedure is not the performance test method used to demonstrate compliance with a relevant standard or other requirement. If the alternative monitoring procedure will serve as the performance test method that is to be used to demonstrate compliance with a relevant standard, the application must be submitted at least 60 days before the performance evaluation is scheduled to begin and must meet the requirements for an alternative test method under 40 CFR 63.7(f).

(ii) The application must contain a description of the proposed alternative monitoring system which addresses the four elements contained in the definition of monitoring in 40 CFR 63.2 and a performance evaluation test plan, if required, as specified in paragraph (e)(3) of this section. In addition, the application must include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method.

(iii) The owner or operator may submit the information required in this paragraph well in advance of the submittal dates specified in paragraph (f)(4)(i) above to ensure a timely review by the Administrator in order to meet the compliance demonstration date specified in this section or the relevant standard.

(iv) Application for minor changes to monitoring procedures, as specified in paragraph (b)(1) of this section, may be made in the site-specific performance evaluation plan.

(5) Approval of request to use alternative monitoring procedure

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the request to use an alternative monitoring method within 30 calendar days after receipt of the original request and within 30 calendar days after receipt of any supplementary information that is submitted. If a request for a minor change is made in conjunction with site-specific performance evaluation plan, then approval of the plan will constitute approval of the minor change. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with:

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator notifies the applicant of his or her intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

(ii) The Administrator may establish general procedures and criteria in a relevant standard to accomplish the requirements of paragraph (f)(5)(i) of this section.

(iii) If the Administrator approves the use of an alternative monitoring method for an affected source under paragraph (f)(5)(i) of this section, the owner or operator of such source shall continue to use the alternative monitoring method until he or she receives approval from the Administrator to use another monitoring method as allowed by 40 CFR 63.8(f).

(6) Alternative to the relative accuracy test. An alternative to the relative accuracy test for CEMS specified in a relevant standard may be requested as follows:

(i) Criteria for approval of alternative procedures. An alternative to the test method for determining relative accuracy is available for affected sources with emission rates demonstrated to be less than 50 percent of the relevant standard. The owner or operator of an affected source may petition the Administrator under paragraph (f)(6)(ii) of this section to substitute the relative accuracy test in section 7 of Performance Specification

2 with the procedures in section 10 if the results of a performance test conducted according to the requirements in 40 CFR 63.7, or other tests performed following the criteria in 40 CFR 63.7, demonstrate that the emission rate of the pollutant of interest in the units of the relevant standard is less than 50 percent of the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the owner or operator may petition the Administrator to substitute the relative accuracy test with the procedures in section 10 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the CEMS is used continuously to determine compliance with the relevant standard.

(ii) Petition to use alternative to relative accuracy test. The petition to use an alternative to the relative accuracy test shall include a detailed description of the procedures to be applied, the location and the procedure for conducting the alternative, the concentration or response levels of the alternative relative accuracy materials, and the other equipment checks included in the alternative procedure(s). The Administrator will review the petition for completeness and applicability. The Administrator's determination to approve an alternative will depend on the intended use of the CEMS data and may require specifications more stringent than in Performance Specification 2.

(iii) Rescission of approval to use alternative to relative accuracy test. The Administrator will review the permission to use an alternative to the CEMS relative accuracy test and may rescind such permission if the CEMS data from a successful completion of the alternative relative accuracy procedure indicate that the affected source's emissions are approaching the level of the relevant standard. The criterion for reviewing the permission is that the collection of CEMS data shows that emissions have exceeded 70 percent of the relevant standard for any averaging period, as specified in the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the criterion for reviewing the permission is that the collection of CEMS data shows that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for any averaging period, as specified in the relevant standard. The owner or operator of the affected source shall maintain records and determine the level of emissions relative to the criterion for permission to use an alternative for relative accuracy testing. If this criterion is exceeded, the owner or operator shall notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increased emissions. The Administrator will review the notification and may rescind permission to use an alternative and require the owner or operator to conduct a relative accuracy test of the CEMS as specified in section 7 of Performance Specification 2.

(g) Reduction of monitoring data

(1) The owner or operator of each CMS must reduce the monitoring data as specified in paragraphs (g)(1) through (5) of this section.

(2) The owner or operator of each COMS shall reduce all data to 6-minute averages calculated from 36 or more data points equally spaced over each 6-minute period. Data from CEMS for measurement other than opacity, unless otherwise specified in the relevant standard, shall be reduced to 1-hour averages computed from four or more data points equally spaced over each 1-hour period, except during periods when calibration, quality assurance, or maintenance activities pursuant to provisions of this part are being performed. During these periods, a valid hourly average shall consist of at least two data points with each representing a 15-minute period. Alternatively, an arithmetic or integrated 1-hour average of CEMS data may be used. Time periods for averaging are defined in 40 CFR 63.2.

(3) The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O_2 or ng/J of pollutant).

(4) All emission data shall be converted into units of the relevant standard for reporting purposes using the conversion procedures specified in that standard. After conversion into units of the relevant standard, the data may be rounded to the same number of significant digits as used in that standard to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).

(5) Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments must not be included in any data average computed under this part. For the owner or operator complying with the requirements of 40 CFR 63.10(b)(2)(vii)(A) or (B), data averages must include any data recorded during periods of monitor breakdown or malfunction.

[59 FR 12430, Mar. 16, 1994, as amended at 64 FR 7468, Feb. 12, 1999; 67 FR 16603, Apr. 5, 2002; 71 FR 20455, Apr. 20, 2006]

40 CFR 63.9 - Notification requirements

(a) Applicability and general information

(1) The applicability of this section is set out in 40 CFR 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under Subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a notice that contains all the information required in a notification listed in this section, the owner or operator may send the Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

(4)

(i) Before a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in 40 CFR 63.13).

(ii) After a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each notification submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any notifications at its discretion.

(b) Initial notifications

(1)

(i) The requirements of this paragraph apply to the owner or operator of an affected source when such source becomes subject to a relevant standard.

(ii) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source that is subject to the emission standard or other requirement, such source shall be subject to the notification requirements of this section.

(iii) Affected sources that are required under this paragraph to submit an initial notification may use the application for approval of construction or reconstruction under 40 CFR 63.5(d) of this Subpart, if relevant, to fulfill the initial notification requirements of this paragraph.

(2) The owner or operator of an affected source that has an initial startup before the effective date of a relevant standard under this part shall notify the Administrator in writing that the source is subject to the relevant standard. The notification, which shall be submitted not later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard), shall provide the following information:

(i) The name and address of the owner or operator;

(ii) The address (i.e., physical location) of the affected source;

(iii) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;

(iv) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and

(v) A statement of whether the affected source is a major source or an area source.

(3) [Reserved]

(4) The owner or operator of a new or reconstructed major affected source for which an application for approval of construction or reconstruction is required under 40 CFR 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new major-emitting affected source, reconstruct a major-emitting affected source, or reconstruct a major source such that the source becomes a major-emitting affected source with the application for approval of construction or reconstruction as specified in 40 CFR 63.5(d)(1)(i); and

(ii)–(iv) [Reserved]

(v) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(5) The owner or operator of a new or reconstructed affected source for which an application for approval of construction or reconstruction is not required under 40 CFR 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new affected source, reconstruct an affected source, or reconstruct a source such that the source becomes an affected source, and

(ii) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(iii) Unless the owner or operator has requested and received prior permission from the Administrator to submit less than the information in 40 CFR 63.5(d), the notification must include the information required on the application for approval of construction or reconstruction as specified in 40 CFR 63.5(d)(1)(i).

(c) Request for extension of compliance. If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with 40 CFR 63.6(i)(5) of this Subpart, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in 40 CFR 63.6(i)(4) through 40 CFR 63.6(i)(6).

(d) Notification that source is subject to special compliance requirements. An owner or operator of a new source that is subject to special compliance requirements as specified in 40 CFR 63.6(b)(3) and 40 CFR 63.6(b)(4) shall notify the Administrator of his/her compliance obligations not later than the notification dates established in paragraph (b) of this section for new sources that are not subject to the special provisions.

(e) Notification of performance test. The owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin to allow the Administrator to review and approve the site-specific test plan required under 40 CFR 63.7(c), if requested by the Administrator, and to have an observer present during the test.

(f) Notification of opacity and visible emission observations. The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting the opacity or visible emission observations specified in 40 CFR 63.6(h)(5), if such observations are required for the source by a relevant standard. The notification shall be submitted with the notification of the performance test date, as specified in paragraph (e) of this section, or if no performance test is required or visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under 40 CFR 63.7, the owner or operator shall deliver or postmark the notification not less than 30 days before the opacity or visible emission observations are scheduled to take place.

(g) Additional notification requirements for sources with continuous monitoring systems. The owner or operator of an affected source required to use a CMS by a relevant standard shall furnish the Administrator written notification as follows:

(1) A notification of the date the CMS performance evaluation under 40 CFR 63.8(e) is scheduled to begin, submitted simultaneously with the notification of the performance test date required under 40 CFR 63.7(b). If no performance test is required, or if the requirement to conduct a performance test has been waived for an affected source under 40 CFR 63.7(h), the owner or operator shall notify the Administrator in writing of the date of the performance evaluation at least 60 calendar days before the evaluation is scheduled to begin;

(2) A notification that COMS data results will be used to determine compliance with the applicable opacity emission standard during a performance test required by 40 CFR 63.7 in lieu of Method 9 or other opacity emissions test method data, as allowed by 40 CFR 63.6(h)(7)(ii), if compliance with an opacity emission standard is required for the source by a relevant standard. The notification shall be submitted at least 60 calendar days before the performance test is scheduled to begin; and

(3) A notification that the criterion necessary to continue use of an alternative to relative accuracy testing, as provided by 40 CFR 63.8(f)(6), has been exceeded. The notification shall be delivered or postmarked not later than 10 days after the occurrence of such exceedance, and it shall include a description of the nature and cause of the increased emissions.

(h) Notification of compliance status

(1) The requirements of paragraphs (h)(2) through (h)(4) of this section apply when an affected source becomes subject to a relevant standard.

(2)

(i) Before a Title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit to the Administrator a notification of compliance status, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with the relevant standard. The notification shall list:

(A) The methods that were used to determine compliance;

(B) The results of any performance tests, opacity or visible emission observations, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted;

(C) The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods;

(D) The type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard;

(E) If the relevant standard applies to both major and area sources, an analysis demonstrating whether the affected source is a major source (using the emissions data generated for this notification);

(F) A description of the air pollution control equipment (or method) for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method); and

(G) A statement by the owner or operator of the affected existing, new, or reconstructed source as to whether the source has complied with the relevant standard or other requirements.

(ii) The notification must be sent before the close of business on the 60th day following the completion of the relevant compliance demonstration activity specified in the relevant standard (unless a different reporting period is specified in the standard, in which case the letter must be sent before the close of business on the day the report of the relevant testing or monitoring results is required to be delivered or postmarked). For example, the notification shall be sent before close of business on the 60th (or other required) day following completion of the initial performance test and again before the close of business on the 60th (or other required) day following the completion of any subsequent required performance test. If no performance test is required but opacity or visible emission observations are required to demonstrate compliance with an opacity or visible emission standard under this part, the notification of compliance status shall be sent before close of business on the 30th day following the completion of opacity or visible emission observations. Notifications may be combined as long as the due date requirement for each notification is met.

(3) After a Title V permit has been issued to the owner or operator of an affected source, the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's Title V permit, including reports required under this part. After a Title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in the relevant standard.

(4) [Reserved]

(5) If an owner or operator of an affected source submits estimates or preliminary information in the application for approval of construction or reconstruction required in 40 CFR 63.5(d) in place of the actual emissions data or control efficiencies required in paragraphs (d)(1)(ii)(H) and (d)(2) of 40 CFR 63.5, the owner or operator shall submit the actual emissions data and other correct information as soon as available but no later than with the initial notification of compliance status required in this section.

(6) Advice on a notification of compliance status may be obtained from the Administrator.

(i) Adjustment to time periods or postmark deadlines for submittal and review of required communications

(1)

(i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (i)(2) and (i)(3) of this section, the owner or operator of an affected source remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (i)(2) and (i)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

(j) Change in information already provided. Any change in the information already provided under this section shall be provided to the Administrator in writing within 15 calendar days after the change.

[59 FR 12430, Mar. 16, 1994, as amended at 64 FR 7468, Feb. 12, 1999; 67 FR 16604, Apr. 5, 2002; 68 FR 32601, May 30, 2003]

40 CFR 63.10 - Recordkeeping and reporting requirements

(a) Applicability and general information

(1) The applicability of this section is set out in 40 CFR 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under Subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a report that contains all the information required in a report listed in this section, an owner or operator may send the Administrator a copy of the report sent to the State to satisfy the requirements of this section for that report.

(4)

(i) Before a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in 40 CFR 63.13).

(ii) After a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each report submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any reports at its discretion.

(5) If an owner or operator of an affected source in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such source under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. For each relevant standard established pursuant to section 112 of the Act, the allowance in the previous sentence applies in each State beginning 1 year after the affected source's compliance date for that standard. Procedures governing the implementation of this provision are specified in 40 CFR 63.9(i).

(6) If an owner or operator supervises one or more stationary sources affected by more than one standard established pursuant to section 112 of the Act, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required for each source shall be submitted throughout the year. The allowance in the previous sentence applies in each State

beginning 1 year after the latest compliance date for any relevant standard established pursuant to section 112 of the Act for any such affected source(s). Procedures governing the implementation of this provision are specified in 40 CFR 63.9(i).

(7) If an owner or operator supervises one or more stationary sources affected by standards established pursuant to section 112 of the Act (as amended November 15, 1990) and standards set under 40 CFR 60, 61, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required by each relevant (i.e., applicable) standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the relevant section 112 standard, or 1 year after the stationary source is required to be in compliance with the applicable 40 CFR 60 or 61 standard, whichever is latest. Procedures governing the implementation of this provision are specified in 40 CFR 63.9(i).

(b) General recordkeeping requirements

(1) The owner or operator of an affected source subject to the provisions of this part shall maintain files of all information (including all reports and notifications) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(2) The owner or operator of an affected source subject to the provisions of this part shall maintain relevant records for such source of:

(i) The occurrence and duration of each startup or shutdown when the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards;

(ii) The occurrence and duration of each malfunction of operation (i.e., process equipment) or the required air pollution control and monitoring equipment;

(iii) All required maintenance performed on the air pollution control and monitoring equipment;

(iv)

(A) Actions taken during periods of startup or shutdown when the source exceeded applicable emission limitations in a relevant standard and when the actions taken are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see 40 CFR 63.6(e)(3)); or

(B) Actions taken during periods of malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when the actions taken are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see 40 CFR 63.6(e)(3));

(v) All information necessary, including actions taken, to demonstrate conformance with the affected source's startup, shutdown, and malfunction plan (see 40 CFR 63.6(e)(3)) when all actions taken during periods of startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a “checklist,” or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events);

(vi) Each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);

(vii) All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);

(A) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data

acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(B) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(C) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (b)(2)(vii), if the administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(viii) All results of performance tests, CMS performance evaluations, and opacity and visible emission observations;

(ix) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations;

(x) All CMS calibration checks;

(xi) All adjustments and maintenance performed on CMS;

(xii) Any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements under this part, if the source has been granted a waiver under paragraph (f) of this section;

(xiii) All emission levels relative to the criterion for obtaining permission to use an alternative to the relative accuracy test, if the source has been granted such permission under 40 CFR 63.8(f)(6); and

(xiv) All documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.9.

(3) Recordkeeping requirement for applicability determinations. If an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f), and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under this part) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the Administrator to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant Subparts of this part for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with EPA guidance materials published to assist sources in making applicability determinations under section 112, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under paragraph (b)(3) of this section shall not by themselves create an obligation for the owner or operator to obtain a title V permit.

(c) Additional recordkeeping requirements for sources with continuous monitoring systems. In addition to complying with the requirements specified in paragraphs (b)(1) and (b)(2) of this section, the owner or operator of an affected source required to install a CMS by a relevant standard shall maintain records for such source of:

(1) All required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);

(2) - (4) [Reserved]

(5) The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;

(6) The date and time identifying each period during which the CMS was out of control, as defined in 40 CFR 63.8(c)(7);

(7) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during startups, shutdowns, and malfunctions of the affected source;

(8) The specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during periods other than startups, shutdowns, and malfunctions of the affected source;

(9) [Reserved]

(10) The nature and cause of any malfunction (if known);

(11) The corrective action taken or preventive measures adopted;

(12) The nature of the repairs or adjustments to the CMS that was inoperative or out of control;

(13) The total process operating time during the reporting period; and

(14) All procedures that are part of a quality control program developed and implemented for CMS under 40 CFR 63.8(d).

(15) In order to satisfy the requirements of paragraphs (c)(10) through (c)(12) of this section and to avoid duplicative recordkeeping efforts, the owner or operator may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan specified in 40 CFR 63.6(e), provided that such plan and records adequately address the requirements of paragraphs (c)(10) through (c)(12).

(d) General reporting requirements

(1) Notwithstanding the requirements in this paragraph or paragraph (e) of this section, and except as provided in 40 CFR 63.16, the owner or operator of an affected source subject to reporting requirements under this part shall submit reports to the Administrator in accordance with the reporting requirements in the relevant standard(s).

(2) Reporting results of performance tests. Before a Title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of any performance test under 40 CFR 63.7 to the Administrator. After a Title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of a required performance test to the appropriate permitting authority. The owner or operator of an affected source shall report the results of the performance test to the Administrator (or the State with an approved permit program) before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator. The results of the performance test shall be submitted as part of the notification of compliance status required under 40 CFR 63.9(h).

(3) Reporting results of opacity or visible emission observations. The owner or operator of an affected source required to conduct opacity or visible emission observations by a relevant standard shall report the opacity or visible emission results (produced using Test Method 9 or Test Method 22, or an alternative to these test methods) along with the results of the performance test required under 40 CFR 63.7. If no performance test is required, or if visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the performance test required under 40 CFR 63.7, the owner or operator shall report the opacity or visible emission results before the close of business on the 30th day following the completion of the opacity or visible emission observations.

(4) Progress reports. The owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under 40 CFR 63.6(i) shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.

(5)

(i) Periodic startup, shutdown, and malfunction reports. If actions taken by an owner or operator during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan (see 40 CFR 63.6(e)(3)), the owner or operator shall state such information in a startup, shutdown, and malfunction report. Actions taken to minimize emissions during such startups, shutdowns, and malfunctions shall be summarized in the report and may be done in checklist form; if actions taken are the same for each event, only one checklist is necessary. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. Reports shall only be required if a startup or shutdown caused the source to exceed any applicable emission

limitation in the relevant emission standards, or if a malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually (or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's Title V permit). The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the owner or operator is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports. If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under paragraph (e) of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change. The procedures to implement the allowance in the preceding sentence shall be the same as the procedures specified in paragraph (e)(3) of this section.

(ii) Immediate startup, shutdown, and malfunction reports. Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under paragraph (d)(5)(i) of this section, any time an action taken by an owner or operator during a startup or shutdown that caused the source to exceed any applicable emission limitation in the relevant emission standards, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required under this paragraph (d)(5)(ii) shall consist of a telephone call (or facsimile (FAX) transmission) to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred (or could have occurred in the case of malfunctions), and actions taken to minimize emissions in conformance with 40 CFR 63.6(e)(1)(i). Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this paragraph (d)(5)(ii) are specified in 40 CFR63.9(i).

(e) Additional reporting requirements for sources with continuous monitoring systems

(1) General. When more than one CEMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CEMS.

(2) Reporting results of continuous monitoring system performance evaluations

(i) The owner or operator of an affected source required to install a CMS by a relevant standard shall furnish the Administrator a copy of a written report of the results of the CMS performance evaluation, as required under 40 CFR 63.8(e), simultaneously with the results of the performance test required under 40 CFR 63.7, unless otherwise specified in the relevant standard.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under 40 CFR 63.7 and described in 40 CFR 63.6(d)(6) shall furnish the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation conducted under 40 CFR 63.8(e). The copies shall be furnished at least 15 calendar days before the performance test required under 40 CFR 63.7 is conducted.

(3) Excess emissions and continuous monitoring system performance report and summary report

(i) Excess emissions and parameter monitoring exceedances are defined in relevant standards. The owner or operator of an affected source required to install a CMS by a relevant standard shall submit an excess emissions and continuous monitoring system performance report and/or a summary report to the Administrator semiannually, except when:

(A) More frequent reporting is specifically required by a relevant standard;

(B) The Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source; or

(C) [Reserved]

(D) The affected source is complying with the Performance Track Provisions of 40 CFR 63.16, which allows less frequent reporting.

(ii) Request to reduce frequency of excess emissions and continuous monitoring system performance reports. Notwithstanding the frequency of reporting requirements specified in paragraph (e)(3)(i) of this section, an owner or operator who is required by a relevant standard to submit excess emissions and continuous monitoring system performance (and summary) reports on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(A) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected source's excess emissions and continuous monitoring system performance reports continually demonstrate that the source is in compliance with the relevant standard;

(B) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this Subpart and the relevant standard; and

(C) The Administrator does not object to a reduced frequency of reporting for the affected source, as provided in paragraph (e)(3)(iii) of this section.

(iii) The frequency of reporting of excess emissions and continuous monitoring system performance (and summary) reports required to comply with a relevant standard may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the 5-year recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(iv) As soon as CMS data indicate that the source is not in compliance with any emission limitation or operating parameter specified in the relevant standard, the frequency of reporting shall revert to the frequency specified in the relevant standard, and the owner or operator shall submit an excess emissions and continuous monitoring system performance (and summary) report for the noncomplying emission points at the next appropriate reporting period following the noncomplying event. After demonstrating ongoing compliance with the relevant standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard, as provided for in paragraphs (e)(3)(ii) and (e)(3)(iii) of this section.

(v) Content and submittal dates for excess emissions and monitoring system performance reports. All excess emissions and monitoring system performance reports and all summary reports, if required, shall be delivered or postmarked by the 30th day following the end of each calendar half or quarter, as appropriate. Written reports of excess emissions or exceedances of process or control system parameters shall include all the information required in paragraphs (c)(5) through (c)(13) of this section, in 40 CFR 63.8(c)(7) and 40 CFR 63.8(c)(8), and in the relevant standard, and they shall contain the name, title, and signature of the responsible official who is certifying the accuracy of the report. When no excess emissions or exceedances of a parameter have occurred, or a CMS has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.

(vi) Summary report. As required under paragraphs (e)(3)(vii) and (e)(3)(viii) of this section, one summary report shall be submitted for the hazardous air pollutants monitored at each affected source (unless the relevant standard specifies that more than one summary report is required, e.g., one summary report for each hazardous air pollutant monitored). The summary report shall be entitled “Summary Report-Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance” and shall contain the following information:

(A) The company name and address of the affected source;
(B) An identification of each hazardous air pollutant monitored at the affected source;
(C) The beginning and ending dates of the reporting period;
(D) A brief description of the process units;
(E) The emission and operating parameter limitations specified in the relevant standard(s);
(F) The monitoring equipment manufacturer(s) and model number(s);
(G) The date of the latest CMS certification or audit;
(H) The total operating time of the affected source during the reporting period;
(I) An emission data summary (or similar summary if the owner or operator monitors control system parameters), including the total duration of excess emissions during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes;
(J) A CMS performance summary (or similar summary if the owner or operator monitors control system parameters), including the total CMS downtime during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of CMS downtime expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total CMS downtime during the reporting period into periods that are due to monitoring equipment malfunctions, nonmonitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes;
(K) A description of any changes in CMS, processes, or controls since the last reporting period;
(L) The name, title, and signature of the responsible official who is certifying the accuracy of the report; and
(M) The date of the report.

(vii) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period, and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report shall be submitted, and the full excess emissions and continuous monitoring system performance report need not be submitted unless required by the Administrator.

(viii) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, both the summary report and the excess emissions and continuous monitoring system performance report shall be submitted.

(4) Reporting continuous opacity monitoring system data produced during a performance test. The owner or operator of an affected source required to use a COMS shall record the monitoring data produced during a performance test required under 40 CFR 63.7 and shall furnish the Administrator a written report of the monitoring results. The report of COMS data shall be submitted simultaneously with the report of the performance test results required in paragraph (d)(2) of this section.

(f) Waiver of recordkeeping or reporting requirements

(1) Until a waiver of a recordkeeping or reporting requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Recordkeeping or reporting requirements may be waived upon written application to the Administrator if, in the Administrator's judgment, the affected source is achieving the relevant standard(s), or the source is operating under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) If an application for a waiver of recordkeeping or reporting is made, the application shall accompany the request for an extension of compliance under 40 CFR 63.6(i), any required compliance progress report or compliance status report required under this part (such as under 40 CFR 63.6(i) and 40 CFR 63.9(h)) or in the source's Title V permit, or an excess emissions and continuous monitoring system performance report required under paragraph (e) of

this section, whichever is applicable. The application shall include whatever information the owner or operator considers useful to convince the Administrator that a waiver of recordkeeping or reporting is warranted.

(4) The Administrator will approve or deny a request for a waiver of recordkeeping or reporting requirements under this paragraph when he/she:

(i) Approves or denies an extension of compliance; or

(ii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iii) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) A waiver of any recordkeeping or reporting requirement granted under this paragraph may be conditioned on other recordkeeping or reporting requirements deemed necessary by the Administrator.

(6) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

[59 FR 12430, Mar. 16, 1994, as amended at 64 FR 7468, Feb. 12, 1999; 67 FR 16604, Apr. 5, 2002; 68 FR 32601, May 30, 2003; 69 FR 21752, Apr. 22, 2004; 71 FR 20455, Apr. 20, 2006]

40 CFR 63.11 - Control device and work practice requirements

(a) Applicability

(1) The applicability of this section is set out in 40 CFR 63.1(a)(4).

(2) This section contains requirements for control devices used to comply with applicable Subparts of this part. The requirements are placed here for administrative convenience and apply only to facilities covered by Subparts referring to this section.

(3) This section also contains requirements for an alternative work practice used to identify leaking equipment. This alternative work practice is placed here for administrative convenience and is available to all Subparts in 40 CFR 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR 60 Appendix A-7, Method 21 monitor.

(b) Flares

(1) Owners or operators using flares to comply with the provisions of this part shall monitor these control devices to assure that they are operated and maintained in conformance with their designs. Applicable Subparts will provide provisions stating how owners or operators using flares shall monitor these control devices.

(2) Flares shall be steam-assisted, air-assisted, or non-assisted.

(3) Flares shall be operated at all times when emissions may be vented to them.

(4) Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. Test Method 22 in Appendix A of 40 CFR 60 of this chapter shall be used to determine the compliance of flares with the visible emission provisions of this part. The observation period is 2 hours and shall be used according to Method 22.

(5) Flares 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.

(6) An owner/operator has the choice of adhering to the heat content specifications in paragraph (b)(6)(ii) of this section, and the maximum tip velocity specifications in paragraph (b)(7) or (b)(8) of this section, or adhering to the requirements in paragraph (b)(6)(i) of this section.

(i)

(A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity V_{max}, as determined by the following equation:

$$V_{max}=(X_{H2}-K_1)* K_2$$

Where:

V_{max} = Maximum permitted velocity, m/sec.
K_1 = Constant, 6.0 volume-percent hydrogen.
K_2 = Constant, 3.9(m/sec)/volume-percent hydrogen.
X_{H2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in 40 CFR 63.14).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (b)(7)(i) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 M/scm (200 Btu/scf) or greater if the flares is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K\sum_{i=1}^{n} C_i H_i$$

Where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25° C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20° C.
K = Constant=

$$1.740\times10^{-7}\left(\frac{1}{ppmv}\right)\left(\frac{\text{g-mole}}{\text{scm}}\right)\left(\frac{\text{MJ}}{\text{kcal}}\right)$$

where the standard temperature for (g-mole/scm) is 20 °C.

C_i = Concentration of sample component i in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946-77 or 90 (Reapproved 1994) (incorporated by reference as specified in 40 CFR 63.14).
H_i = Net heat of combustion of sample component i, kcal/g-mole at 25° C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in 40 CFR 63.14) if published values are not available or cannot be calculated.
N = Number of sample components.

(7)

(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Method 2, 2A, 2C, or 2D in Appendix A to 40 CFR 60 of this chapter, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).
(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, less than the velocity V_{max}, as determined by the method specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, V_{max}, for flares complying with this paragraph shall be determined by the following equation:

$$\text{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

Where:

V_{max} = Maximum permitted velocity, m/sec.
28.8 = Constant.
31.7 = Constant.
H_T = The net heating value as determined in paragraph (b)(6) of this section.

(8) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity V_{max}. The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation:

$$V_{max} = 8.71 + 0.708\,(H_T)$$

Where:

V_{max} = Maximum permitted velocity, m/sec.
8.71 = Constant.
0.708 = Constant.
H_T = The net heating value as determined in paragraph (b)(6)(ii) of this section.

(c) Alternative work practice for monitoring equipment for leaks. Paragraphs (c), (d), and (e) of this section apply to all equipment for which the applicable Subpart requires monitoring with a 40 CFR 60 Appendix A-7, Method 21 monitor, except for closed vent systems, equipment designated as leakless, and equipment identified in the applicable Subpart as having no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. An owner or operator may use an optical gas imaging instrument instead of a 40 CFR 60 Appendix A-7, Method 21 monitor. Requirements in the existing Subparts that are specific to the Method 21 instrument do not apply under this section. All other requirements in the applicable Subpart that are not addressed in paragraphs (c), (d), and (e) of this section continue to apply. For example, equipment specification requirements, and non-Method 21 instrument recordkeeping and reporting requirements in the applicable Subpart continue to apply. The terms defined in paragraphs (c)(1) through (5) of this section have meanings that are specific to the alternative work practice standard in paragraphs (c), (d), and (e) of this section.

(1) *Applicable Subpart* means the Subpart in 40 CFR 60, 61, 63, and 65 that requires monitoring of equipment with a 40 CFR 60 Appendix A-7, Method 21 monitor.
(2) *Equipment* means pumps, valves, pressure relief valves, compressors, open-ended lines, flanges, connectors, and other equipment covered by the applicable Subpart that require monitoring with a 40 CFR 60 Appendix A-7, Method 21 monitor.
(3) *Imaging* means making visible emissions that may otherwise be invisible to the naked eye.
(4) *Optical gas imaging instrument* means an instrument that makes visible emissions that may otherwise be invisible to the naked eye.

(5) *Repair* means that equipment is adjusted, or otherwise altered, in order to eliminate a leak.

(6) *Leak* means:

(i) Any emissions imaged by the optical gas instrument;

(ii) Indications of liquids dripping;

(iii) Indications by a sensor that a seal or barrier fluid system has failed; or

(iv) Screening results using a 40 CFR 60 Appendix A-7, Method 21 monitor that exceed the leak definition in the applicable Subpart to which the equipment is subject.

(d) The alternative work practice standard for monitoring equipment for leaks is available to all Subparts in 40 CFR 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR 60 Appendix A-7, Method 21 monitor.

(1) An owner or operator of an affected source subject to 40 CFR 60, 61, 63, or 65 can choose to comply with the alternative work practice requirements in paragraph (e) of this section instead of using the 40 CFR 60 Appendix A-7, Method 21 monitor to identify leaking equipment. The owner or operator must document the equipment, process units, and facilities for which the alternative work practice will be used to identify leaks.

(2) Any leak detected when following the leak survey procedure in paragraph (e)(3) of this section must be identified for repair as required in the applicable Subpart.

(3) If the alternative work practice is used to identify leaks, re-screening after an attempted repair of leaking equipment must be conducted using either the alternative work practice or the 40 CFR 60 Appendix A-7, Method 21 monitor at the leak definition required in the applicable Subparts to which the equipment is subject.

(4) The schedule for repair is as required in the applicable Subpart.

(5) When this alternative work practice is used for detecting leaking equipment, choose one of the monitoring frequencies listed in Table 1 to Subpart A of this part in lieu of the monitoring frequency specified for regulated equipment in the applicable Subpart. Reduced monitoring frequencies for good performance are not applicable when using the alternative work practice.

(6) When this alternative work practice is used for detecting leaking equipment, the following are not applicable for the equipment being monitored:

(i) Skip period leak detection and repair;

(ii) Quality improvement plans; or

(iii) Complying with standards for allowable percentage of valves and pumps to leak.

(7) When the alternative work practice is used to detect leaking equipment, the regulated equipment in paragraph (d)(1)(i) of this section must also be monitored annually using a 40 CFR 60 Appendix A-7, Method 21 monitor at the leak definition required in the applicable Subpart. The owner or operator may choose the specific monitoring period (for example, first quarter) to conduct the annual monitoring. Subsequent monitoring must be conducted every 12 months from the initial period. Owners or operators must keep records of the annual Method 21 screening results, as specified in paragraph (i)(4)(vii) of this section.

(e) An owner or operator of an affected source who chooses to use the alternative work practice must comply with the requirements of paragraphs (e)(1) through (e)(5) of this section.

(1) Instrument specifications. The optical gas imaging instrument must comply with the requirements specified in paragraphs (e)(1)(i) and (e)(1)(ii) of this section.

(i) Provide the operator with an image of the potential leak points for each piece of equipment at both the detection sensitivity level and within the distance used in the daily instrument check described in paragraph (e)(2) of this section. The detection sensitivity level depends upon the frequency at which leak monitoring is to be performed.

(ii) Provide a date and time stamp for video records of every monitoring event.

(2) Daily instrument check. On a daily basis, and prior to beginning any leak monitoring work, test the optical gas imaging instrument at the mass flow rate determined in paragraph (e)(2)(i) of this section in accordance with the procedure specified in paragraphs (e)(2)(ii) through (e)(2)(iv) of this section for each camera configuration used during monitoring (for example, different lenses used), unless an alternative method to demonstrate daily instrument checks has been approved in accordance with paragraph (e)(2)(v) of this section.

(i) Calculate the mass flow rate to be used in the daily instrument check by following the procedures in paragraphs (e)(2)(i)(A) and (e)(2)(i)(B) of this section.

(A) For a specified population of equipment to be imaged by the instrument, determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, within the distance to be used in paragraph (e)(2)(iv)(B) of this section, at or below the standard detection sensitivity level.

(B) Multiply the standard detection sensitivity level, corresponding to the selected monitoring frequency in Table 1 of Subpart A of this part, by the mass fraction of detectable chemicals from the stream identified in paragraph (e)(2)(i)(A) of this section to determine the mass flow rate to be used in the daily instrument check, using the following equation.

$$E_{dic} = (E_{sds}) \sum_{i=1}^{k} x_i$$

Where:

E_{dic} = Mass flow rate for the daily instrument check, grams per hour
x_i = Mass fraction of detectable chemical(s) i seen by the optical gas imaging instrument, within the distance to be used in paragraph (e)(2)(iv)(B) of this section, at or below the standard detection sensitivity level, E_{sds}.
E_{sds} = Standard detection sensitivity level from Table 1 to Subpart A, grams per hour
k = Total number of detectable chemicals emitted from the leaking equipment and seen by the optical gas imaging instrument.

(ii) Start the optical gas imaging instrument according to the manufacturer's instructions, ensuring that all appropriate settings conform to the manufacturer's instructions.

(iii) Use any gas chosen by the user that can be viewed by the optical gas imaging instrument and that has a purity of no less than 98 percent.

(iv) Establish a mass flow rate by using the following procedures:

(A) Provide a source of gas where it will be in the field of view of the optical gas imaging instrument.

(B) Set up the optical gas imaging instrument at a recorded distance from the outlet or leak orifice of the flow meter that will not be exceeded in the actual performance of the leak survey. Do not exceed the operating parameters of the flow meter.

(C) Open the valve on the flow meter to set a flow rate that will create a mass emission rate equal to the mass rate calculated in paragraph (e)(2)(i) of this section while observing the gas flow through the optical gas imaging instrument viewfinder. When an image of the gas emission is seen through the viewfinder at the required emission rate, make a record of the reading on the flow meter.

(v) Repeat the procedures specified in paragraphs (e)(2)(ii) through (e)(2)(iv) of this section for each configuration of the optical gas imaging instrument used during the leak survey.

(vi) To use an alternative method to demonstrate daily instrument checks, apply to the Administrator for approval of the alternative under 40 CFR 63.177 or 40 CFR 63.178, whichever is applicable.

(3) Leak survey procedure. Operate the optical gas imaging instrument to image every regulated piece of equipment selected for this work practice in accordance with the instrument manufacturer's operating parameters. All emissions imaged by the optical gas imaging instrument are considered to be leaks and are subject to repair. All emissions visible to the naked eye are also considered to be leaks and are subject to repair.

(4) Recordkeeping. Keep the records described in paragraphs (e)(4)(i) through (e)(4)(vii) of this section:

(i) The equipment, processes, and facilities for which the owner or operator chooses to use the alternative work practice.

(ii) The detection sensitivity level selected from Table 1 to Subpart A of this part for the optical gas imaging instrument.

(iii) The analysis to determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, as specified in paragraph (e)(2)(i)(A) of this section.

(iv) The technical basis for the mass fraction of detectable chemicals used in the equation in paragraph (e)(2)(i)(B) of this section.

(v) The daily instrument check. Record the distance, per paragraph (e)(2)(iv)(B) of this section, and the flow meter reading, per paragraph (e)(2)(iv)(C) of this section, at which the leak was imaged. Keep a video record of the daily instrument check for each configuration of the optical gas imaging instrument used during the leak survey (for example, the daily instrument check must be conducted for each lens used). The video record must include a time and date stamp for each daily instrument check. The video record must be kept for 5 years.

(vi) Recordkeeping requirements in the applicable Subpart. A video record must be used to document the leak survey results. The video record must include a time and date stamp for each monitoring event. A video record can be used to meet the recordkeeping requirements of the applicable Subparts if each piece of regulated equipment selected for this work practice can be identified in the video record. The video record must be kept for 5 years.

(vii) The results of the annual Method 21 screening required in paragraph (h)(7) of this section. Records must be kept for all regulated equipment specified in paragraph (h)(1) of this section. Records must identify the equipment screened, the screening value measured by Method 21, the time and date of the screening, and calibration information required in the existing applicable Subparts.

(5) Reporting. Submit the reports required in the applicable Subpart. Submit the records of the annual Method 21 screening required in paragraph (h)(7) of this section to the Administrator via e-mail to *CCG-AWP@EPA.GOV*.

[59 FR 12430, Mar. 16, 1994, as amended at 63 FR 24444, May 4, 1998; 65 FR 62215, Oct. 17, 2000; 67 FR 16605, Apr. 5, 2002; 73 FR 78211, Dec. 22, 2008]

40 CFR 63.12 - State authority and delegations

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from:

(1) Adopting and enforcing any standard, limitation, prohibition, or other regulation applicable to an affected source subject to the requirements of this part, provided that such standard, limitation, prohibition, or regulation is not less stringent than any requirement applicable to such source established under this part;

(2) Requiring the owner or operator of an affected source to obtain permits, licenses, or approvals prior to initiating construction, reconstruction, modification, or operation of such source; or

(3) Requiring emission reductions in excess of those specified in Subpart D of this part as a condition for granting the extension of compliance authorized by section 112(i)(5) of the Act.

(b)

(1) Section 112(l) of the Act directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards and other requirements pursuant to section 112 for stationary sources located in that State. Because of the unique nature of radioactive material, delegation of authority to implement and enforce standards that control radionuclides may require separate approval.

(2) Subpart E of this part establishes procedures consistent with section 112(l) for the approval of State rules or programs to implement and enforce applicable Federal rules promulgated under the authority of section 112. Subpart E also establishes procedures for the review and withdrawal of section 112 implementation and enforcement authorities granted through a section 112(l) approval.

(c) All information required to be submitted to the EPA under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act, provided that each specific delegation may exempt sources from a certain Federal or State reporting requirement. The Administrator may permit all or some of the information to be submitted to the appropriate State agency only, instead of to the EPA and the State agency.

40 CFR 63.13 - Addresses of State air pollution control agencies and EPA Regional Offices

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted to the appropriate Regional Office of the U.S. Environmental Protection Agency indicated in the following list of EPA Regional Offices.

EPA Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont), Director, Office of Ecosystem Protection, 5 Post Office Square-Suite 100, Boston, MA 02109-3912.

EPA Region II (New Jersey, New York, Puerto Rico, Virgin Islands), Director, Air and Waste Management Division, 26 Federal Plaza, New York, NY 10278.

EPA Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), Director, Air Protection Division, 1650 Arch Street, Philadelphia, PA 19103.
EPA Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Director, Air, Pesticides and Toxics Management Division, Atlanta Federal Center, 61 Forsyth Street, Atlanta, GA 30303-3104.
EPA Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air and Radiation Division, 77 West Jackson Blvd., Chicago, IL 60604-3507.
EPA Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas), Director, Air, Pesticides and Toxics, 1445 Ross Avenue, Dallas, TX 75202-2733.
EPA Region VII (Iowa, Kansas, Missouri, Nebraska), Director, Air, RCRA, and Toxics Division, U.S. Environmental Protection Agency, 901 N. 5th Street, Kansas City, KS 66101.
EPA Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming) Director, Air and Toxics Technical Enforcement Program, Office of Enforcement, Compliance and Environmental Justice, Mail Code 8ENF-AT, 1595 Wynkoop Street, Denver, CO 80202-1129.
EPA Region IX (Arizona, California, Hawaii, Nevada; the territories of American Samoa and Guam; the Commonwealth of the Northern Mariana Islands; the territories of Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Atoll, Palmyra Atoll, and Wake Islands; and certain U.S. Government activities in the freely associated states of the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Palau), Director, Air Division, 75 Hawthorne Street, San Francisco, CA 94105.
EPA Region X (Alaska, Idaho, Oregon, Washington), Director, Office of Air Quality, 1200 Sixth Avenue (OAQ-107), Seattle, WA 98101.
(b) All information required to be submitted to the Administrator under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act. The owner or operator of an affected source may contact the appropriate EPA Regional Office for the mailing addresses for those States whose delegation requests have been approved.
(c) If any State requires a submittal that contains all the information required in an application, notification, request, report, statement, or other communication required in this part, an owner or operator may send the appropriate Regional Office of the EPA a copy of that submittal to satisfy the requirements of this part for that communication.
[59 FR 12430, Mar. 16, 1994, as amended at 63 FR 66061, Dec. 1, 1998; 67 FR 4184, Jan. 29, 2002; 68 FR 32601, May 30, 2003; 68 FR 35792, June 17, 2003; 73 FR 24871, May 6, 2008; 75 FR 69532, Nov. 12, 2010; 76 FR 49673, Aug. 11, 2011]

40 CFR 63.14 - Incorporations by reference
Link to an amendment published at 76 FR 15662, Mar. 21, 2011.
Link to a delay published at 76 FR 28664, May 18, 2011.
(a) The materials listed in this section are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in theFederal Register. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the National Archives and Records Administration (NARA), at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW., Washington, DC, and at the EPA Library (MD-35), U.S. EPA, Research Triangle Park, North Carolina. For information on the availability of this material at NARA, call 202-741-6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

(b) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.
(1) ASTM D523-89, Standard Test Method for Specular Gloss, IBR approved for 40 CFR 63.782.
(2) ASTM D1193-77, 91, Standard Specification for Reagent Water, IBR approved for Appendix A: Method 306, Sections 7.1.1 and 7.4.2.
(3) ASTM D1331-89, Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface Active Agents, IBR approved for Appendix A: Method 306B, Sections 6.2, 11.1, and 12.2.2.
(4) ASTM D1475-90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for 40 CFR 63.788, Appendix A.
(5) ASTM D1946-77, 90, 94, Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for 40 CFR 63.11(b)(6).

(6) ASTM D2369-93, 95, Standard Test Method for Volatile Content of Coatings, IBR approved for 40 CFR 63.788, Appendix A.
(7) ASTM D2382-76, 88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for 40 CFR 63.11(b)(6).
(8) ASTM D2879-83, 96, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for 40 CFR 63.111 and 40 CFR 63.2406.
(9) ASTM D3257-93, Standard Test Methods for Aromatics in Mineral Spirits by Gas Chromatography, IBR approved for 40 CFR 63.786(b).
(10) ASTM 3695-88, Standard Test Method for Volatile Alcohols in Water by Direct Aqueous-Injection Gas Chromatography, IBR approved for 40 CFR 63.365(e)(1) of Subpart O.
(11) ASTM D3792-91, Standard Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for 40 CFR 63.788, Appendix A.
(12) ASTM D3912-80, Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for 40 CFR 63.782.
(13) ASTM D4017-90, 96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for 40 CFR 63.788, Appendix A.
(14) ASTM D4082-89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, IBR approved for 40 CFR 63.782.
(15) ASTM D4256-89, 94, Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for 40 CFR 63.782.
(16) ASTM D4809-95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for 40 CFR 63.11(b)(6).
(17) ASTM E180-93, Standard Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals, IBR approved for 40 CFR 63.786(b).
(18) ASTM E260-91, 96, General Practice for Packed Column Gas Chromatography, IBR approved for 40 CFR 63.750(b)(2) and 63.786(b)(5).
(19)-(20) [Reserved]
(21) ASTM D2099-00, Standard Test Method for Dynamic Water Resistance of Shoe Upper Leather by the Maeser Water Penetration Tester, IBR approved for 40 CFR 63.5350.
(22)-(23) [Reserved]
(24) ASTM D2697-86 (Reapproved 1998), “Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings,” IBR approved for 40 CFR 63.3161(f)(1), 63.3521(b)(1), 63.3941(b)(1), 63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).
(25) ASTM D6093-97 (Reapproved 2003), “Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer,” IBR approved for 40 CFR 63.3161(f)(1), 63.3521(b)(1), 63.3941(b)(1), 63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).
(26) ASTM D1475-98 (Reapproved 2003), “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products,” IBR approved for 40 CFR 63.3151(b), 63.3941(b)(4), 63.3941(c), 63.3951(c), 63.4141(b)(3), 63.4141(c), and 63.4551(c).
(27) ASTM D6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, IBR approved for 40 CFR 63.9307(c)(2).
(28) ASTM D6420-99 (Reapproved 2004), Standards Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectometry, IBR approved for 40 CFR 60.485(g)(5), 60.485a(g)(5), 63.772(a)(1)(ii), 63.2354(b)(3)(i), 63.2354(b)(3)(ii), 63.2354(b)(3)(ii)(A), and 63.2351(b)(3)(ii)(B).
(29) ASTM D6420-99, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, IBR approved for 40 CFR 63.5799 and 63.5850.
(30) ASTM E 515-95 (Reapproved 2000), Standard Test Method for Leaks Using Bubble Emission Techniques, IBR approved for 40 CFR 63.425(i)(2).
(31) ASTM D5291-02, Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants, IBR approved for 40 CFR 63.3981, Appendix A.
(32) ASTM D5965-02, “Standard Test Methods for Specific Gravity of Coating Powders,” IBR approved for 40 CFR 63.3151(b) and 63.3951(c).

(33) ASTM D6053-00, Standard Test Method for Determination of Volatile Organic Compound (VOC) Content of Electrical Insulating Varnishes, IBR approved for 40 CFR 63.3981, Appendix A.
(34) E145-94 (Reapproved 2001), Standard Specification for Gravity-Convection and Forced-Ventilation Ovens, IBR approved for 40 CFR 63.4581, Appendix A.
(35) ASTM D6784-02 (Reapproved 2008) Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved April 1, 2008, IBR approved for Table 1 to Subpart DDDDD of this part, Table 2 to Subpart DDDDD of this part, Table 5 to Subpart DDDDD, Table 12 to Subpart DDDDD of this part, and Table 4 to Subpart JJJJJJ of this part.
(36) ASTM D5066-91 (Reapproved 2001), "Standard Test Method for Determination of the Transfer Efficiency Under Production Conditions for Spray Application of Automotive Paints-Weight Basis," IBR approved for 40 CFR 63.3161(g).
(37) ASTM D5087-02, "Standard Test Method for Determining Amount of Volatile Organic Compound (VOC) Released from Solventborne Automotive Coatings and Available for Removal in a VOC Control Device (Abatement)," IBR approved for 40 CFR 63.3165(e) and 63.3176, Appendix A.
(38) ASTM D6266-00a, "Test Method for Determining the Amount of Volatile Organic Compound (VOC) Released from Waterborne Automotive Coatings and Available for Removal in a VOC Control Device (Abatement)," IBR approved for 40 CFR 63.3165(e).
(39) ASTM Method D388-05, Standard Classification of Coals by Rank, approved September 15, 2005, IBR approved for 40 CFR 63.7575 and 40 CFR 63.11237.
(40) ASTM D396-10 Standard Specification for Fuel Oils, approved October 1, 2010, IBR approved for 40 CFR 63.7575.
(41) ASTM Method D1835-05, Standard Specification for Liquefied Petroleum (LP) Gases, approved April 1, 2005, IBR approved for 40 CFR 63.7575 and 40 CFR 63.11237.
(42) ASTM D2013/D2013M-09 Standard Practice for Preparing Coal Samples for Analysis, approved November 1, 2009, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.
(43) ASTM D2234/D2234M-10 Standard Practice for Collection of a Gross Sample of Coal, approved January 1, 2010, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.
(44) ASTM D3173-03 (Reapproved 2008) Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, approved February 1, 2008, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.
(45)-(46) [Reserved]
(47) ASTM D5198-09 Standard Practice for Nitric Acid Digestion of Solid Waste, approved February 1, 2009, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.
(48) ASTM D5865-10a Standard Test Method for Gross Calorific Value of Coal and Coke, approved May 1, 2010, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.
(49) ASTM D6323-98 (Reapproved 2003), Standard Guide for Laboratory Subsampling of Media Related to Waste Management Activities, approved August 10, 2003, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.
(50) ASTM E711-87 (Reapproved 2004) Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the Bomb Calorimeter, approved August 28, 1987, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.
(51) ASTM E776-87 (Reapproved 2009) Standard Test Method for Forms of Chlorine in Refuse-Derived Fuel, approved July 1, 2009, IBR approved for Table 6 to Subpart DDDDD of this part.
(52) ASTM E871-82 (Reapproved 2006) Standard Test Method for Moisture Analysis of Particulate Wood Fuels, approved November 1, 2006, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.
(53) ASTM E885-88 (Reapproved 1996), Standard Test Methods for Analyses of Metals in Refuse-Derived Fuel by Atomic Absorption Spectroscopy,[1] IBR approved for Table 6 to Subpart DDDDD of 40 CFR 63.
(54) ASTM D6348-03, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, incorporation by reference (IBR) approved for 40 CFR 63.1349(b)(4)(iii) of Subpart LLL and Table 4 to Subpart DDDD of this part as specified in the Subpart.
(55)-(56) [Reserved]

(57) ASTM D6721-01 (Reapproved 2006) Standard Test Method for Determination of Chlorine in Coal by Oxidative Hydrolysis Microcoulometry, approved April 1, 2006, IBR approved for Table 6 to Subpart DDDDD of this part.
(58)-(60) [Reserved]
(61) ASTM D6722-01 (Reapproved 2006) Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by the Direct Combustion Analysis, approved April 1, 2006, IBR approved for Table 6 to Subpart DDDDD and Table 5 to Subpart JJJJJJ of this part.
(62) [Reserved]
(63) ASTM D2216-05, "Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass," IBR approved for the definition of "Free organic liquids" in 40 CFR 63.10692.
(64) ASTM D6522-00 (Reapproved 2005), Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, approved October 1, 2005, IBR approved for Table 4 to Subpart ZZZZ of this part, Table 5 to Subpart DDDDD of this part, and Table 4 to Subpart JJJJJJ of this part.
(65) ASTM D 5228-92-"Standard Test Method for Determination of Butane Working Capacity of Activated Carbon," reapproved 2005, IBR approved for 40 CFR 63.11092(b)(1)(i)(B)(*1*)(*ii*).
(66) ASTM D6784-02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved April 1, 2008, IBR approved for 40 CFR 63.11646(a)(1)(vi), 40 CFR 63.11647(a)(1)(ii), 40 CFR 63.11647(a)(3)(ii), and 40 CFR 63.11647(d).
(67) ASTM D5954-98 (Reapproved 2006), Test Method for Mercury Sampling and Measurement in Natural Gas by Atomic Absorption Spectroscopy, approved December 1, 2006, IBR approved for Table 6 to Subpart DDDDD of this part.
(68) ASTM D6350-98 (Reapproved 2003) Standard Test Method for Mercury Sampling and Analysis in Natural Gas by Atomic Fluorescence Spectroscopy, approved May 10, 2003, IBR approved for Table 6 to Subpart DDDDD of this part.

(c) The materials listed below are available for purchase from the American Petroleum Institute (API), 1220 L Street, NW, Washington, DC 20005.
(1) API Publication 2517, Evaporative Loss from External Floating-Roof Tanks, Third Edition, February 1989, IBR approved for 40 CFR 63.111 and 40 CFR 63.2406.
(2) API Publication 2518, Evaporative Loss from Fixed-roof Tanks, Second Edition, October 1991, IBR approved for 40 CFR 63.150(g)(3)(i)(C) of Subpart G of this part.
(3) API Manual of Petroleum Measurement Specifications (MPMS) Chapter 19.2, Evaporative Loss From Floating-Roof Tanks (formerly API Publications 2517 and 2519), First Edition, April 1997, IBR approved for 40 CFR 63.1251 of Subpart GGG of this part.

(d) State and Local Requirements. The following materials listed below are available at the Air and Radiation Docket and Information Center, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, telephone number (202) 566-1745.
(1) California Regulatory Requirements Applicable to the Air Toxics Program, November 16, 2010, IBR approved for 40 CFR 63.99(a)(5)(ii) of Subpart E of this part.
(2) New Jersey's Toxic Catastrophe Prevention Act Program, (July 20, 1998), Incorporation By Reference approved for 40 CFR 63.99 (a)(30)(i) of Subpart E of this part.
(3)(i) Letter of June 7, 1999 to the U.S. Environmental Protection Agency Region 3 from the Delaware Department of Natural Resources and Environmental Control requesting formal full delegation to take over primary responsibility for implementation and enforcement of the Chemical Accident Prevention Program under Section 112(r) of the Clean Air Act Amendments of 1990.
(ii) Delaware Department of Natural Resources and Environmental Control, Division of Air and Waste Management, Accidental Release Prevention Regulation, sections 1 through 5 and sections 7 through 14, effective January 11, 1999, IBR approved for 40 CFR 63.99(a)(8)(i) of Subpart E of this part.
(iii) State of Delaware Regulations Governing the Control of Air Pollution (October 2000), IBR approved for 40 CFR 63.99(a)(8)(ii)-(v) of Subpart E of this part.

(4) Massachusetts Department of Environmental Protection regulations at 310 CMR 7.26(10)-(16), Air Pollution Control, effective as of September 5, 2008, corrected March 6, 2009, and 310 CMR 70.00, Environmental Results Program Certification, effective as of December 28, 2007. Incorporation By Reference approved for 40 CFR 63.99(a)(22)(ii) of Subpart E of this part.
(5)(i) New Hampshire Regulations Applicable to Hazardous Air Pollutants, March, 2003. Incorporation by Reference approved for 40 CFR 63.99(a)(29)(iii) of Subpart E of this part.
(ii) New Hampshire Regulations Applicable to Hazardous Air Pollutants, September 2006. Incorporation by Reference approved for 40 CFR 63.99(a)(29)(iv) of Subpart E of this part.
(6) Maine Department of Environmental Protection regulations at Chapter 125, Perchloroethylene Dry Cleaner Regulation, effective as of June 2, 1991, last amended on June 24, 2009. Incorporation By Reference approved for 40 CFR 63.99(a)(20)(iii) of Subpart E of this part.
(7) California South Coast Air Quality Management District's “Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989,” IBR approved for 40 CFR 63.11173(e) and 40 CFR 63.11516(d).
(8) California South Coast Air Quality Management District's “Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002,” Revision 0, IBR approved for 40 CFR 63.11173(e) and 63.11516(d).
(9) Rhode Island Department of Environmental Management regulations at Air Pollution Control Regulation No. 36, Control of Emissions from Organic Solvent Cleaning, effective April 8, 1996, last amended October 9, 2008, and Rhode Island Air Pollution Control, General Definitions Regulation, effective July 19, 2007, last amended October 9, 2008. Incorporation By Reference approved for 40 CFR 63.99(a)(40)(ii) of Subpart E of this part.

(e) The materials listed below are available for purchase from the National Institute of Standards and Technology, Springfield, VA 22161, (800) 553-6847.
(1) Handbook 44, Specificiations, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998, IBR approved for 40 CFR 63.1303(e)(3).
(2) [Reserved]
(f) The following material is available from the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), P.O. Box 133318, Research Triangle Park, NC 27709-3318 or at *http://www.ncasi.org.*
(1) NCASI Method DI/MEOH-94.02, Methanol in Process Liquids GC/FID (Gas Chromatography/Flame Ionization Detection), August 1998, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for 40 CFR 63.457(c)(3)(ii) of Subpart S of this part.
(2) NCASI Method CI/WP-98.01, Chilled Impinger Method For Use At Wood Products Mills to Measure Formaldehyde, Methanol, and Phenol, 1998, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for Table 4 to Subpart DDDD of this part.
(3) NCASI Method IM/CAN/WP-99.02, Impinger/Canister Source Sampling Method for Selected HAPs and Other Compounds at Wood Products Facilities, January 2004, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for Table 4 to Subpart DDDD of this part.
(4) NCASI Method ISS/FP A105.01, Impinger Source Sampling Method for Selected Aldehydes, Ketones, and Polar Compounds, December 2005, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for Table 4 to Subpart DDDD of this part.
(g) The materials listed below are available for purchase from AOAC International, Customer Services, Suite 400, 2200 Wilson Boulevard, Arlington, Virginia, 22201-3301, Telephone (703) 522-3032, Fax (703) 522-5468.
(1) AOAC Official Method 978.01 Phosphorus (Total) in Fertilizers, Automated Method, Sixteenth edition, 1995, IBR approved for 40 CFR 63.626(d)(3)(vi).
(2) AOAC Official Method 969.02 Phosphorus (Total) in Fertilizers, Alkalimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for 40 CFR 63.626(d)(3)(vi).
(3) AOAC Official Method 962.02 Phosphorus (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for 40 CFR 63.626(d)(3)(vi).
(4) AOAC Official Method 957.02 Phosphorus (Total) in Fertilizers, Preparation of Sample Solution, Sixteenth edition, 1995, IBR approved for 40 CFR 63.626(d)(3)(vi).
(5) AOAC Official Method 929.01 Sampling of Solid Fertilizers, Sixteenth edition, 1995, IBR approved for 40 CFR 63.626(d)(3)(vi).
(6) AOAC Official Method 929.02 Preparation of Fertilizer Sample, Sixteenth edition, 1995, IBR approved for 40 CFR 63.626(d)(3)(vi).

(7) AOAC Official Method 958.01 Phosphorus (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method, Sixteenth edition, 1995, IBR approved for 40 CFR 63.626(d)(3)(vi).

(h) The materials listed below are available for purchase from The Association of Florida Phosphate Chemists, P.O. Box 1645, Bartow, Florida, 33830, Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists, Seventh Edition 1991, IBR.
(1) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample, IBR approved for 40 CFR 63.606(c)(3)(ii) and 40 CFR 63.626(c)(3)(ii).
(2) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method A-Volumetric Method, IBR approved for 40 CFR 63.606(c)(3)(ii) and 40 CFR 63.626(c)(3)(ii).
(3) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method B-Gravimetric Quimociac Method, IBR approved for 40 CFR 63.606(c)(3)(ii) and 40 CFR 63.626(c)(3)(ii).
(4) Section IX, Methods of Analysis For Phosphate Rock, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method C-Spectrophotometric Method, IBR approved for 40 CFR 63.606(c)(3)(ii) and 40 CFR 63.626(c)(3)(ii).
(5) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method A-Volumetric Method, IBR approved for 40 CFR 63.606(c)(3)(ii), 40 CFR 63.626(c)(3)(ii), and 40 CFR 63.626(d)(3)(v).
(6) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method B-Gravimetric Quimociac Method, IBR approved for 40 CFR 63.606(c)(3)(ii), 40 CFR 63.626(c)(3)(ii), and 40 CFR 63.626(d)(3)(v).
(7) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method C-Spectrophotometric Method, IBR approved for 40 CFR 63.606(c)(3)(ii), 40 CFR 63.626(c)(3)(ii), and 40 CFR 63.626(d)(3)(v).

(i) The following materials are available for purchase from at least one of the following addresses: ASME International, Orders/Inquiries, P.O. Box 2900, Fairfield, NJ 07007-2900; or Global Engineering Documents, Sales Department, 15 Inverness Way East, Englewood, CO 80112.
(1) ANSI/ASME PTC 19.10-1981, “Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus],” IBR approved for 40 CFR 63.309(k)(1)(iii), 63.865(b), 63.3166(a)(3), 63.3360(e)(1)(iii), 63.3545(a)(3), 63.3555(a)(3), 63.4166(a)(3), 63.4362(a)(3), 63.4766(a)(3), 63.4965(a)(3), 63.5160(d)(1)(iii), 63.9307(c)(2), 63.9323(a)(3), 63.11148(e)(3)(iii), 63.11155(e)(3), 63.11162(f)(3)(iii) and (f)(4), 63.11163(g)(1)(iii) and (g)(2), 63.11410(j)(1)(iii), 63.11551(a)(2)(i)(C), Table 5 to Subpart DDDDD of this part, Table 1 to Subpart ZZZZZ of this part, and Table 4 to Subpart JJJJJJ of this part.
(2) [Reserved]

(j) The following material is available for purchase from: British Standards Institute, 389 Chiswick High Road, London W4 4AL, United Kingdom.
(1) BS EN 1593:1999, Non-destructive Testing: Leak Testing-Bubble Emission Techniques, IBR approved for 40 CFR 63.425(i)(2).
(2) [Reserved]
(k) The following materials are available for purchase from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 605-6000 or (800) 553-6847; or for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800:
(1) The following methods as published in the test methods compendium known as “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, Third Edition. A suffix of “A” in the method number indicates revision one (the method has been revised once). A suffix of “B” in the method number indicates revision two (the method has been revised twice).
(i) Method 0023A, “Sampling Method for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofuran Emissions from Stationary Sources,” dated December 1996, IBR approved for 40 CFR 63.1208(b)(1) of Subpart EEE of this part.
(ii) Method 9071B, “n-Hexane Extractable Material (HEM) for Sludge, Sediment, and Solid Samples,” dated April 1998, IBR approved for 40 CFR 63.7824(e) of Subpart FFFFF of this part.
(iii) Method 9095A, “Paint Filter Liquids Test,” dated December 1996, IBR approved for 40 CFR 63.7700(b) and 63.7765 of Subpart EEEEE of this part.

(iv) Method 9095B, “Paint Filter Liquids Test,” (revision 2), dated November 2004, IBR approved for the definition of “Free organic liquids” in 40 CFR 63.10692, 40 CFR 63.10885(a)(1), and the definition of “Free liquids” in 40 CFR 63.10906.
(v) SW-846 Method 74741B, Revision 2, “Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique)” February 2007, IBR approved for 40 CFR 63.11647(f)(2).
(2) The following method as published in the National Institute of Occupational Safety and Health (NIOSH) test method compendium, “NIOSH Manual of Analytical Methods”, NIOSH publication no. 94-113, Fourth Edition, August 15, 1994.
(i) NIOSH Method 2010, “Amines, Aliphatic,” Issue 2, August 15, 1994, IBR approved for 40 CFR 63.7732(g)(1)(v) of Subpart EEEEE of this part.
(ii) [Reserved]
(l) The following materials are available for purchase from the American Society of Heating, Refrigerating, and Air-Conditioning Engineers at 1791 Tullie Circle, NE., Atlanta, GA 30329 or by electronic mail at *orders@ashrae.org:*
(1) American Society of Heating, Refrigerating, and Air Conditioning Engineers Method 52.1, “Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter, June 4, 1992,” IBR approved for 40 CFR 63.11173(e) and 63.11516(d).
(2) [Reserved]
(m) The following materials are available from the California Air Resources Board, Engineering and Certification Branch, 1001 I Street, P.O. Box 2815, Sacramento, CA 95812-2815, Telephone (916) 327-0900 and are also available at the following Web site: *http://www.arb.ca.gov/vapor/vapor.htm.*
(1) 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, IBR approved for 40 CFR 63.11120(b)(1).
(2) 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, IBR approved for 40 CFR 63.11120(a)(1)(i).
(3) 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, IBR approved for 40 CFR 63.11120(a)(2)(i).
(n) The following material is available from the Texas Commission on Environmental Quality (TCEQ) Library, Post Office Box 13087, Austin, Texas 78711-3087, telephone number (512) 239-0028 or at *http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp_ado.pdf* :
(1) “Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources,” Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by Texas Commission on Environmental Quality, January 31, 2003, IBR approved for 40 CFR 63.654(c)(1) and (g)(4)(i) of Subpart CC of this part.
(2) [Reserved]
(o) The following material is available from the Bay Area Air Quality Management District (BAAQMD), 939 Ellis Street, San Francisco, California 94109, and is also available at the following Web site: *http://www.arb.ca.gov/DRDB/BA/CURHTML/ST/st30.pdf.*
(1) “BAAQMD Source Test Procedure ST–30—Static Pressure Integrity Test, Underground Storage Tanks,” adopted November 30, 1983, and amended December 21, 1994, IBR approved for 40 CFR 63.11120(a)(2)(iii).
(2) [Reserved]
(p) The following material is available from the U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, (202) 272-0167, *http://www.epa.gov.*
(1) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants-Background Information for Proposed Standards, Final Report, EPA-453/R-01-005, January 2001, IBR approved for 40 CFR 63.7491(g).
(2) Office Of Air Quality Planning And Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, EPA-454/R-98-015, September 1997, IBR approved for 40 CFR 63.7525(j)(2) and 40 CFR 63.11224(f)(2).
(3) SW-846-3020A, Acid Digestion of Aqueous Samples And Extracts For Total Metals For Analysis By GFAA Spectroscopy, Revision 1, July 1992, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.

(4) SW-846-3050B, Acid Digestion of Sediments, Sludges, And Soils, Revision 2, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.
(5) SW-846-7470A, Mercury In Liquid Waste (Manual Cold-Vapor Technique), Revision 1, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.
(6) SW-846-7471B, Mercury In Solid Or Semisolid Waste (Manual Cold-Vapor Technique), Revision 2, February 2007, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for Table 6 to Subpart DDDDD of this part and Table 5 to Subpart JJJJJJ of this part.
(7) SW-846-9250, Chloride (Colorimetric, Automated Ferricyanide AAI), Revision 0, September 1986, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for Table 6 to Subpart DDDDD of this part.
(q) The following material is available for purchase from the International Standards Organization (ISO), 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, +41 22 749 01 11, *http://www.iso.org/iso/home.htm.*
(1) ISO 6978-1:2003(E), Natural Gas-Determination of Mercury-Part 1: Sampling of Mercury by Chemisorption on Iodine, First edition, October 15, 2003, IBR approved for Table 6 to Subpart DDDDD of this part.
(2) ISO 6978–2:2003(E), Natural gas-Determination of Mercury-Part 2: Sampling of Mercury by Amalgamation on Gold/Platinum Alloy, First edition, October 15, 2003, IBR approved for Table 6 to Subpart DDDDD of this part.
[59 FR 12430, Mar. 16, 1994]

Editorial Notes: For Federal Register citations affecting 40 CFR 63.14, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at www.fdsys.gov.
2. At 76 FR 15589, Mar. 21, 2011, 40 CFR 63.14 was amended by adding paragraph (b)(66), however, the amendment could not be incorporated because a paragraph (b)(66) already existed. For the convenience of the user, the added text is set forth as follows:

40 CFR 63.14 - Incorporation by reference
(b) * * *
(66) ASTM D4084-07 Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), approved June 1, 2007, IBR approved for Table 6 to Subpart DDDDD of this part.

40 CFR 63.15 - Availability of information and confidentiality
(a) Availability of information
(1) With the exception of information protected through part 2 of this chapter, all reports, records, and other information collected by the Administrator under this part are available to the public. In addition, a copy of each permit application, compliance plan (including the schedule of compliance), notification of compliance status, excess emissions and continuous monitoring systems performance report, and title V permit is available to the public, consistent with protections recognized in section 503(e) of the Act.
(2) The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.
(b) Confidentiality
(1) If an owner or operator is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the owner or operator may submit such information separately. The requirements of section 114(c) shall apply to such information.
(2) The contents of a Title V permit shall not be entitled to protection under section 114(c) of the Act; however, information submitted as part of an application for a Title V permit may be entitled to protection from disclosure.

40 CFR 63.16 - Performance Track Provisions

(a) Notwithstanding any other requirements in this part, an affected source at any major source or any area source at a Performance Track member facility, which is subject to regular periodic reporting under any Subpart of this part, may submit such periodic reports at an interval that is twice the length of the regular period specified in the applicable Subparts; provided, that for sources subject to permits under 40 CFR 70 or 71 no interval so calculated for any report of the results of any required monitoring may be less frequent than once in every six months.

(b) Notwithstanding any other requirements in this part, the modifications of reporting requirements in paragraph (c) of this section apply to any major source at a Performance Track member facility which is subject to requirements under any of the Subparts of this part and which has:

(1) Reduced its total HAP emissions to less than 25 tons per year;

(2) Reduced its emissions of each individual HAP to less than 10 tons per year; and

(3) Reduced emissions of all HAPs covered by each MACT standard to at least the level required for full compliance with the applicable emission standard.

(c) For affected sources at any area source at a Performance Track member facility and which meet the requirements of paragraph (b)(3) of this section, or for affected sources at any major source that meet the requirements of paragraph (b) of this section:

(1) If the emission standard to which the affected source is subject is based on add-on control technology, and the affected source complies by using add-on control technology, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is meeting the emission standard by continuing to use that control technology. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(2) If the emission standard to which the affected source is subject is based on add-on control technology, and the affected source complies by using pollution prevention, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is continuing to use pollution prevention to reduce HAP emissions to levels at or below those required by the applicable emission standard. The affected source must maintain records of all calculations that demonstrate the level of HAP emissions required by the emission standard as well as the level of HAP emissions achieved by the affected source. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(3) If the emission standard to which the affected source is subject is based on pollution prevention, and the affected source complies by using pollution prevention and reduces emissions by an additional 50 percent or greater than required by the applicable emission standard, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is continuing to use pollution prevention to reduce HAP emissions by an additional 50 percent or greater than required by the applicable emission standard. The affected source must maintain records of all calculations that demonstrate the level of HAP emissions required by the emission standard as well as the level of HAP emissions achieved by the affected source. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(4) Notwithstanding the provisions of paragraphs (c)(1) through (3), of this section, for sources subject to permits under 40 CFR 70 or 71, the results of any required monitoring and recordkeeping must be reported not less frequently than once in every six months.

[69 FR 21753, Apr. 22, 2004]

Table 1 to Subpart A of 40 CFR 63 - Detection Sensitivity Levels (grams per hour)

Monitoring frequency per Subpart[a]	Detection sensitivity level
Bi-Monthly	60
Semi-Quarterly	85
Monthly	100

[a]When this alternative work practice is used to identify leaking equipment, the owner or operator must choose one of the monitoring frequencies listed in this Table, in lieu of the monitoring frequency specified in the applicable Subpart. Bi-monthly means every other month. Semi-quarterly means twice per quarter. Monthly means once per month.

[73 FR 78213, Dec. 22, 2008]

Title 40: Protection of Environment
PART 63 - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart S - National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry
Source: 63 FR 18617, Apr. 15, 1998, unless otherwise noted.

40 CFR 63.440 - Applicability
(a) The provisions of this Subpart apply to the owner or operator of processes that produce pulp, paper, or paperboard; that are located at a plant site that is a major source as defined in 40 CFR 63.2 of Subpart A of 40 CFR 63; and that use the following processes and materials:
(1) Kraft, soda, sulfite, or semi-chemical pulping processes using wood; or
(2) Mechanical pulping processes using wood; or
(3) Any process using secondary or non-wood fibers.
(b) The affected source to which the existing source provisions of this Subpart apply is as follows:
(1) For the processes specified in paragraph (a)(1) of this section, the affected source is the total of all HAP emission points in the pulping and bleaching systems; or
(2) For the processes specified in paragraphs (a)(2) or (a)(3) of this section, the affected source is the total of all HAP emission points in the bleaching system.
(c) The new source provisions of this Subpart apply to the total of all HAP emission points at new or existing sources as follows:
(1) Each affected source defined in paragraph (b)(1) of this section that commences construction or reconstruction after December 17, 1993;
(2) Each pulping system or bleaching system for the processes specified in paragraph (a)(1) of this section that commences construction or reconstruction after December 17, 1993;
(3) Each additional pulping or bleaching line at the processes specified in paragraph (a)(1) of this section, that commences construction after December 17, 1993;
(4) Each affected source defined in paragraph (b)(2) of this section that commences construction or reconstruction after March 8, 1996; or
(5) Each additional bleaching line at the processes specified in paragraphs (a)(2) or (a)(3) of this section, that commences construction after March 8, 1996.
(d) Each existing source shall achieve compliance no later than April 16, 2001, except as provided in paragraphs (d)(1) through (d)(3) of this section.
(1) Each kraft pulping system shall achieve compliance with the pulping system provisions of 40 CFR 63.443 for the equipment listed in 40 CFR 63.443(a)(1)(ii) through (a)(1)(v) as expeditiously as practicable, but in no event later than April 17, 2006 and the owners and operators shall establish dates, update dates, and report the dates for the milestones specified in 40 CFR 63.455(b).
(2) Each dissolving-grade bleaching system at either kraft or sulfite pulping mills shall achieve compliance with the bleach plant provisions of 40 CFR 63.445 of this Subpart as expeditiously as practicable, but in no event later than 3 years after the promulgation of the revised effluent limitation guidelines and standards under 40 CFR 430.14 through 430.17 and 40 CFR 430.44 through 430.47.
(3) Each bleaching system complying with the Voluntary Advanced Technology Incentives Program for Effluent Limitation Guidelines in 40 CFR 430.24, shall comply with the requirements specified in either paragraph (d)(3)(i) or (d)(3)(ii) of this section for the effluent limitation guidelines and standards in 40 CFR 430.24.
(i) Comply with the bleach plant provisions of 40 CFR 63.445 of this Subpart as expeditiously as practicable, but in no event later than April 16, 2001.
(ii) Comply with paragraphs (d)(3)(ii)(A), (d)(3)(ii)(B), and (d)(3)(ii)(C) of this section.
(A) The owner or operator of a bleaching system shall comply with the bleach plant provisions of 40 CFR 63.445 of this Subpart as expeditiously as practicable, but in no event later than April 15, 2004.
(B) The owner or operator of a bleaching system shall comply with the requirements specified in either paragraph (d)(3)(ii)(B)(*1*) or (d)(3)(ii)(B)(*2*) of this section.

(*1*) Not increase the application rate of chlorine or hypochlorite in kilograms (kg) of bleaching agent per megagram of ODP, in the bleaching system above the average daily rates used over the three months prior to June 15, 1998 until the requirements of paragraph (d)(3)(ii)(A) of this section are met and record application rates as specified in 40 CFR 63.454(c).

(*2*) Comply with enforceable effluent limitations guidelines for 2,3,7,8-tetrachloro-dibenzo-p-dioxin and adsorbable organic halides at least as stringent as the baseline BAT levels set out in 40 CFR 430.24(a)(1) as expeditiously as possible, but in no event later than April 16, 2001.

(C) Owners and operators shall establish dates, update dates, and report the dates for the milestones specified in 40 CFR 63.455(b).

(e) Each new source, specified as the total of all HAP emission points for the sources specified in paragraph (c) of this section, shall achieve compliance upon start-up or June 15, 1998, whichever is later, as provided in 40 CFR 63.6(b) of Subpart A of 40 CFR 63.

(f) Each owner or operator of an affected source with affected process equipment shared by more than one type of pulping process, shall comply with the applicable requirement in this Subpart that achieves the maximum degree of reduction in HAP emissions.

(g) Each owner or operator of an affected source specified in paragraphs (a) through (c) of this section must comply with the requirements of Subpart A-General Provisions of 40 CFR 63, as indicated in Table 1 to this Subpart.

[63 FR 18617, Apr. 15, 1998, as amended at 63 FR 71389, Dec. 28, 1998]

<u>40 CFR 63.441 - Definitions</u>

All terms used in this Subpart shall have the meaning given them in the CAA, in Subpart A of 40 CFR 63, and in this section as follows:

Acid condensate storage tank means any storage tank containing cooking acid following the sulfur dioxide gas fortification process.

Black liquor means spent cooking liquor that has been separated from the pulp produced by the kraft, soda, or semi-chemical pulping process.

Bleaching means brightening of pulp by the addition of oxidizing chemicals or reducing chemicals.

Bleaching line means a group of bleaching stages arranged in series such that bleaching of the pulp progresses as the pulp moves from one stage to the next.

Bleaching stage means all process equipment associated with a discrete step of chemical application and removal in the bleaching process including chemical and steam mixers, bleaching towers, washers, seal (filtrate) tanks, vacuum pumps, and any other equipment serving the same function as those previously listed.

Bleaching system means all process equipment after high-density pulp storage prior to the first application of oxidizing chemicals or reducing chemicals following the pulping system, up to and including the final bleaching stage.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam. A boiler is not considered a thermal oxidizer.

Chip steamer means a vessel used for the purpose of preheating or pretreating wood chips prior to the digester, using flash steam from the digester or live steam.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from an emission point to a control device.

Combustion device means an individual unit of equipment, including but not limited to, a thermal oxidizer, lime kiln, recovery furnace, process heater, or boiler, used for the thermal oxidation of organic hazardous air pollutant vapors.

Decker system means all equipment used to thicken the pulp slurry or reduce its liquid content after the pulp washing system and prior to high-density pulp storage. The decker system includes decker vents, filtrate tanks, associated vacuum pumps, and any other equipment serving the same function as those previously listed.

Digester system means each continuous digester or each batch digester used for the chemical treatment of wood or non-wood fibers. The digester system equipment includes associated flash tank(s), blow tank(s), chip steamer(s) not using fresh steam, blow heat recovery accumulator(s), relief gas condenser(s), prehydrolysis unit(s) preceding the pulp washing

system, and any other equipment serving the same function as those previously listed. The digester system includes any of the liquid streams or condensates associated with batch or continuous digester relief, blow, or flash steam processes.

Emission point means any part of a stationary source that emits hazardous air pollutants regulated under this Subpart, including emissions from individual process vents, stacks, open pieces of process equipment, equipment leaks, wastewater and condensate collection and treatment system units, and those emissions that could reasonably be conveyed through a stack, chimney, or duct where such emissions first reach the environment.

Evaporator system means all equipment associated with increasing the solids content and/or concentrating spent cooking liquor from the pulp washing system including pre-evaporators, multi-effect evaporators, concentrators, and vacuum systems, as well as associated condensers, hotwells, and condensate streams, and any other equipment serving the same function as those previously listed.

Flow indicator means any device that indicates gas or liquid flow in an enclosed system.

HAP means a hazardous air pollutant as defined in 40 CFR 63.2 of Subpart A of 40 CFR 63.

High volume, low concentration or HVLC collection system means the gas collection and transport system used to convey gases from the HVLC system to a control device.

High volume, low concentration or HVLC system means the collection of equipment including the pulp washing, knotter, screen, decker, and oxygen delignification systems, weak liquor storage tanks, and any other equipment serving the same function as those previously listed.

Knotter system means equipment where knots, oversized material, or pieces of uncooked wood are removed from the pulp slurry after the digester system and prior to the pulp washing system. The knotter system equipment includes the knotter, knot drainer tanks, ancillary tanks, and any other equipment serving the same function as those previously listed.

Kraft pulping means a chemical pulping process that uses a mixture of sodium hydroxide and sodium sulfide as the cooking liquor.

Lime kiln means an enclosed combustion device used to calcine lime mud, which consists primarily of calcium carbonate, into calcium oxide.

Low volume, high concentration or LVHC collection system means the gas collection and transport system used to convey gases from the LVHC system to a control device.

Low volume, high concentration or LVHC system means the collection of equipment including the digester, turpentine recovery, evaporator, steam stripper systems, and any other equipment serving the same function as those previously listed.

Mechanical pulping means a pulping process that only uses mechanical and thermo-mechanical processes to reduce wood to a fibrous mass. The mechanical pulping processes include, but are not limited to, stone groundwood, pressurized groundwood, refiner mechanical, thermal refiner mechanical, thermo-mechanical, and tandem thermo-mechanical.

Non-wood pulping means the production of pulp from fiber sources other than trees. The non-wood fiber sources include, but are not limited to, bagasse, cereal straw, cotton, flax straw, hemp, jute, kenaf, and leaf fibers.

Oven-dried pulp or ODP means a pulp sample at zero percent moisture content by weight. Pulp samples for applicability or compliance determinations for both the pulping and bleaching systems shall be unbleached pulp. For purposes of complying with mass emission limits in this Subpart, megagram of ODP shall be measured to represent the amount of pulp entering and processed by the equipment system under the specified mass limit. For equipment that does not process pulp, megagram of ODP shall be measured to represent the amount of pulp that was processed to produce the gas and liquid streams.

Oxygen delignification system means the equipment that uses oxygen to remove lignin from pulp after high-density stock storage and prior to the bleaching system. The oxygen delignification system equipment includes the blow tank, washers, filtrate tanks, any interstage pulp storage tanks, and any other equipment serving the same function as those previously listed.

Primary fuel means the fuel that provides the principal heat input to the combustion device. To be considered primary, the fuel must be able to sustain operation of the combustion device without the addition of other fuels.

Process wastewater treatment system means a collection of equipment, a process, or specific technique that removes or destroys the HAPs in a process wastewater stream. Examples include, but are not limited to, a steam stripping unit, wastewater thermal oxidizer, or biological treatment unit.

Pulp washing system means all equipment used to wash pulp and separate spent cooking chemicals following the digester system and prior to the bleaching system, oxygen delignification system, or paper machine system (at unbleached

mills). The pulp washing system equipment includes vacuum drum washers, diffusion washers, rotary pressure washers, horizontal belt filters, intermediate stock chests, and their associated vacuum pumps, filtrate tanks, foam breakers or tanks, and any other equipment serving the same function as those previously listed. The pulp washing system does not include deckers, screens, knotters, stock chests, or pulp storage tanks following the last stage of pulp washing.

Pulping line means a group of equipment arranged in series such that the wood chips are digested and the resulting pulp progresses through a sequence of steps that may include knotting, refining, washing, thickening, blending, storing, oxygen delignification, and any other equipment serving the same function as those previously listed.

Pulping process condensates means any HAP-containing liquid that results from contact of water with organic compounds in the pulping process. Examples of process condensates include digester system condensates, turpentine recovery system condensates, evaporator system condensates, LVHC system condensates, HVLC system condensates, and any other condensates from equipment serving the same function as those previously listed. Liquid streams that are intended for byproduct recovery are not considered process condensate streams.

Pulping system means all process equipment, beginning with the digester system, and up to and including the last piece of pulp conditioning equipment prior to the bleaching system, including treatment with ozone, oxygen, or peroxide before the first application of a chemical bleaching agent intended to brighten pulp. The pulping system includes pulping process condensates and can include multiple pulping lines.

Recovery furnace means an enclosed combustion device where concentrated spent liquor is burned to recover sodium and sulfur, produce steam, and dispose of unwanted dissolved wood components in the liquor.

Screen system means equipment in which oversized particles are removed from the pulp slurry prior to the bleaching or papermaking system washed stock storage.

Secondary fiber pulping means a pulping process that converts a fibrous material, that has previously undergone a manufacturing process, into pulp stock through the addition of water and mechanical energy. The mill then uses that pulp as the raw material in another manufactured product. These mills may also utilize chemical, heat, and mechanical processes to remove ink particles from the fiber stock.

Semi-chemical pulping means a pulping process that combines both chemical and mechanical pulping processes. The semi-chemical pulping process produces intermediate yields ranging from 55 to 90 percent.

Soda pulping means a chemical pulping process that uses sodium hydroxide as the active chemical in the cooking liquor.

Spent liquor means process liquid generated from the separation of cooking liquor from pulp by the pulp washing system containing dissolved organic wood materials and residual cooking compounds.

Steam stripper system means a column (including associated stripper feed tanks, condensers, or heat exchangers) used to remove compounds from wastewater or condensates using steam. The steam stripper system also contains all equipment associated with a methanol rectification process including rectifiers, condensers, decanters, storage tanks, and any other equipment serving the same function as those previously listed.

Strong liquor storage tanks means all storage tanks containing liquor that has been concentrated in preparation for combustion or oxidation in the recovery process.

Sulfite pulping means a chemical pulping process that uses a mixture of sulfurous acid and bisulfite ion as the cooking liquor.

Temperature monitoring device means a piece of equipment used to monitor temperature and having an accuracy of ± 1.0 percent of the temperature being monitored expressed in degrees Celsius or ± 0.5 degrees Celsius (°C), whichever is greater.

Thermal oxidizer means an enclosed device that destroys organic compounds by thermal oxidation.

Turpentine recovery system means all equipment associated with recovering turpentine from digester system gases including condensers, decanters, storage tanks, and any other equipment serving the same function as those previously listed. The turpentine recovery system includes any liquid streams associated with the turpentine recovery process such as turpentine decanter underflow. Liquid streams that are intended for byproduct recovery are not considered turpentine recovery system condensate streams.

Weak liquor storage tank means any storage tank except washer filtrate tanks containing spent liquor recovered from the pulping process and prior to the evaporator system.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

<u>40 CFR 63.442 [Reserved]</u>

40 CFR 63.443 - Standards for the pulping system at kraft, soda, and semi-chemical processes

(a) The owner or operator of each pulping system using the kraft process subject to the requirements of this Subpart shall control the total HAP emissions from the following equipment systems, as specified in paragraphs (c) and (d) of this section.

(1) At existing affected sources, the total HAP emissions from the following equipment systems shall be controlled:

(i) Each LVHC system;

(ii) Each knotter or screen system with total HAP mass emission rates greater than or equal to the rates specified in paragraphs (a)(1)(ii)(A) or (a)(1)(ii)(B) of this section or the combined rate specified in paragraph (a)(1)(ii)(C) of this section.

(A) Each knotter system with emissions of 0.05 kilograms or more of total HAP per megagram of ODP (0.1 pounds per ton).

(B) Each screen system with emissions of 0.10 kilograms or more of total HAP per megagram of ODP (0.2 pounds per ton).

(C) Each knotter and screen system with emissions of 0.15 kilograms or more of total HAP per megagram of ODP (0.3 pounds per ton).

(iii) Each pulp washing system;

(iv) Each decker system that:

(A) Uses any process water other than fresh water or paper machine white water; or

(B) Uses any process water with a total HAP concentration greater than 400 parts per million by weight; and

(v) Each oxygen delignification system.

(2) At new affected sources, the total HAP emissions from the equipment systems listed in paragraphs (a)(1)(i), (a)(1)(iii), and (a)(1)(v) of this section and the following equipment systems shall be controlled:

(i) Each knotter system;

(ii) Each screen system;

(iii) Each decker system; and

(iv) Each weak liquor storage tank.

(b) The owner or operator of each pulping system using a semi-chemical or soda process subject to the requirements of this Subpart shall control the total HAP emissions from the following equipment systems as specified in paragraphs (c) and (d) of this section.

(1) At each existing affected source, the total HAP emissions from each LVHC system shall be controlled.

(2) At each new affected source, the total HAP emissions from each LVHC system and each pulp washing system shall be controlled.

(c) Equipment systems listed in paragraphs (a) and (b) of this section shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (d) of this section. The enclosures and closed-vent system shall meet the requirements specified in 40 CFR 63.450.

(d) The control device used to reduce total HAP emissions from each equipment system listed in paragraphs (a) and (b) of this section shall:

(1) Reduce total HAP emissions by 98 percent or more by weight; or

(2) Reduce the total HAP concentration at the outlet of the thermal oxidizer to 20 parts per million or less by volume, corrected to 10 percent oxygen on a dry basis; or

(3) Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 871 °C (1600 °F) and a minimum residence time of 0.75 seconds; or

(4) Reduce total HAP emissions using one of the following:

(i) A boiler, lime kiln, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone; or

(ii) A boiler or recovery furnace with a heat input capacity greater than or equal to 44 megawatts (150 million British thermal units per hour) by introducing the HAP emission stream with the combustion air.

(e) Periods of excess emissions reported under 40 CFR 63.455 shall not be a violation of 40 CFR 63.443 (c) and (d) provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed the following levels:

(1) One percent for control devices used to reduce the total HAP emissions from the LVHC system; and

(2) Four percent for control devices used to reduce the total HAP emissions from the HVLC system; and

(3) Four percent for control devices used to reduce the total HAP emissions from both the LVHC and HVLC systems.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 66 FR 80762, Dec. 22, 2000; 77 FR 55710, Sept. 11, 2012]

40 CFR 63.444 - Standards for the pulping system at sulfite processes

(a) The owner or operator of each sulfite process subject to the requirements of this Subpart shall control the total HAP emissions from the following equipment systems as specified in paragraphs (b) and (c) of this section.

(1) At existing sulfite affected sources, the total HAP emissions from the following equipment systems shall be controlled:

(i) Each digester system vent;

(ii) Each evaporator system vent; and

(iii) Each pulp washing system.

(2) At new affected sources, the total HAP emissions from the equipment systems listed in paragraph (a)(1) of this section and the following equipment shall be controlled:

(i) Each weak liquor storage tank;

(ii) Each strong liquor storage tank; and

(iii) Each acid condensate storage tank.

(b) Equipment listed in paragraph (a) of this section shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (c) of this section. The enclosures and closed-vent system shall meet the requirements specified in 40 CFR 63.450. Emissions from equipment listed in paragraph (a) of this section that is not necessary to be reduced to meet paragraph (c) of this section is not required to be routed to a control device.

(c) The total HAP emissions from both the equipment systems listed in paragraph (a) of this section and the vents, wastewater, and condensate streams from the control device used to reduce HAP emissions, shall be controlled as follows.

(1) Each calcium-based or sodium-based sulfite pulping process shall:

(i) Emit no more than 0.44 kilograms of total HAP or methanol per megagram (0.89 pounds per ton) of ODP; or

(ii) Remove 92 percent or more by weight of the total HAP or methanol.

(2) Each magnesium-based or ammonium-based sulfite pulping process shall:

(i) Emit no more than 1.1 kilograms of total HAP or methanol per megagram (2.2 pounds per ton) of ODP; or

(ii) Remove 87 percent or more by weight of the total HAP or methanol.

40 CFR 63.445 - Standards for the bleaching system

(a) Each bleaching system that does not use any chlorine or chlorinated compounds for bleaching is exempt from the requirements of this section. Owners or operators of the following bleaching systems shall meet all the provisions of this section:

(1) Bleaching systems that use chlorine;

(2) Bleaching systems bleaching pulp from kraft, sulfite, or soda pulping processes that use any chlorinated compounds; or

(3) Bleaching systems bleaching pulp from mechanical pulping processes using wood or from any process using secondary or non-wood fibers, that use chlorine dioxide.

(b) The equipment at each bleaching stage, of the bleaching systems listed in paragraph (a) of this section, where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (c) of this section. The enclosures and closed-vent system shall meet the requirements specified in 40 CFR 63.450. If process modifications are used to achieve compliance with the

emission limits specified in paragraphs (c)(2) or (c)(3), enclosures and closed-vent systems are not required, unless appropriate.

(c) The control device used to reduce chlorinated HAP emissions (not including chloroform) from the equipment specified in paragraph (b) of this section shall:

(1) Reduce the total chlorinated HAP mass in the vent stream entering the control device by 99 percent or more by weight;

(2) Achieve a treatment device outlet concentration of 10 parts per million or less by volume of total chlorinated HAP; or

(3) Achieve a treatment device outlet mass emission rate of 0.001 kg of total chlorinated HAP mass per megagram (0.002 pounds per ton) of ODP.

(d) The owner or operator of each bleaching system subject to paragraph (a)(2) of this section shall comply with paragraph (d)(1) or (d)(2) of this section to reduce chloroform air emissions to the atmosphere, except the owner or operator of each bleaching system complying with extended compliance under 40 CFR 63.440(d)(3)(ii) shall comply with paragraph (d)(1) of this section.

(1) Comply with the following applicable effluent limitation guidelines and standards specified in 40 CFR 430:

(i) Dissolving-grade kraft bleaching systems and lines, 40 CFR 430.14 through 430.17;

(ii) Paper-grade kraft and soda bleaching systems and lines, 40 CFR 430.24(a)(1) and (e), and 40 CFR 430.26 (a) and (c);

(iii) Dissolving-grade sulfite bleaching systems and lines, 40 CFR 430.44 through 430.47; or

(iv) Paper-grade sulfite bleaching systems and lines, 40 CFR 430.54(a) and (c), and 430.56(a) and (c).

(2) Use no hypochlorite or chlorine for bleaching in the bleaching system or line.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

<u>40 CFR 63.446 - Standards for kraft pulping process condensates</u>

(a) The requirements of this section apply to owners or operators of kraft processes subject to the requirements of this Subpart.

(b) The pulping process condensates from the following equipment systems shall be treated to meet the requirements specified in paragraphs (c), (d), and (e) of this section:

(1) Each digester system;

(2) Each turpentine recovery system;

(3) Each evaporator system condensate from:

(i) The vapors from each stage where weak liquor is introduced (feed stages); and

(ii) Each evaporator vacuum system for each stage where weak liquor is introduced (feed stages).

(4) Each HVLC collection system; and

(5) Each LVHC collection system.

(c) One of the following combinations of HAP-containing pulping process condensates generated, produced, or associated with the equipment systems listed in paragraph (b) of this section shall be subject to the requirements of paragraphs (d) and (e) of this section:

(1) All pulping process condensates from the equipment systems specified in paragraphs (b)(1) through (b)(5) of this section.

(2) The combined pulping process condensates from the equipment systems specified in paragraphs (b)(4) and (b)(5) of this section, plus pulping process condensate stream(s) that in total contain at least 65 percent of the total HAP mass from the pulping process condensates from equipment systems listed in paragraphs (b)(1) through (b)(3) of this section.

(3) The pulping process condensates from equipment systems listed in paragraphs (b)(1) through (b)(5) of this section that in total contain a total HAP mass of 3.6 kilograms or more of total HAP per megagram (7.2 pounds per ton) of ODP for mills that do not perform bleaching or 5.5 kilograms or more of total HAP per megagram (11.1 pounds per ton) of ODP for mills that perform bleaching.

(d) The pulping process condensates from the equipment systems listed in paragraph (b) of this section shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in paragraphs (d)(1) and (d)(2) of this section.

(1) Each closed collection system shall meet the individual drain system requirements specified in 40 CFR 63.960, 63.961, and 63.962 of Subpart RR of 40 CFR 63, except for closed vent systems and control devices shall be designed and operated in accordance with 40 CFR 63.443(d) and 63.450, instead of in accordance with 40 CFR 63.693 as specified in 40 CFR 63.962 (a)(3)(ii), (b)(3)(ii)(A), and (b)(5)(iii); and

(2) If a condensate tank is used in the closed collection system, the tank shall meet the following requirements:

(i) The fixed roof and all openings (e.g., access hatches, sampling ports, gauge wells) shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements in 40 CFR 63.450 and routed to a control device that meets the requirements in 40 CFR 63.443(d); and

(ii) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the tank contains pulping process condensates or any HAP removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

(e) Each pulping process condensate from the equipment systems listed in paragraph (b) of this section shall be treated according to one of the following options:

(1) Recycle the pulping process condensate to an equipment system specified in 40 CFR 63.443(a) meeting the requirements specified in 40 CFR 63.443(c) and (d); or

(2) Discharge the pulping process condensate below the liquid surface of a biological treatment system and treat the pulping process condensates to meet the requirements specified in paragraph (e)(3), (4), or (5) of this section, and total HAP shall be measured as specified in 40 CFR 63.457(g); or

(3) Treat the pulping process condensates to reduce or destroy the total HAPs by at least 92 percent or more by weight; or

(4) At mills that do not perform bleaching, treat the pulping process condensates to remove 3.3 kilograms or more of total HAP per megagram (6.6 pounds per ton) of ODP, or achieve a total HAP concentration of 210 parts per million or less by weight at the outlet of the control device; or

(5) At mills that perform bleaching, treat the pulping process condensates to remove 5.1 kilograms or more of total HAP per megagram (10.2 pounds per ton) of ODP, or achieve a total HAP concentration of 330 parts per million or less by weight at the outlet of the control device.

(f) Each HAP removed from a pulping process condensate stream during treatment and handling under paragraphs (d) or (e) of this section, except for those treated according to paragraph (e)(2) of this section, shall be controlled as specified in 40 CFR 63.443(c) and (d).

(g) For each control device (e.g. steam stripper system or other equipment serving the same function) used to treat pulping process condensates to comply with the requirements specified in paragraphs (e)(3) through (e)(5) of this section, periods of excess emissions reported under 40 CFR 63.455 shall not be a violation of paragraphs (d), (e)(3) through (e)(5), and (f) of this section provided that the time of excess emissions (including periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed 10 percent. The 10 percent excess emissions allowance does not apply to treatment of pulping process condensates according to paragraph (e)(2) of this section (e.g. the biological wastewater treatment system used to treat multiple (primarily non-condensate) wastewater streams to comply with the Clean Water Act).

(h) Each owner or operator of a new or existing affected source subject to the requirements of this section shall evaluate all new or modified pulping process condensates or changes in the annual bleached or non-bleached ODP used to comply with paragraph (i) of this section, to determine if they meet the applicable requirements of this section.

(i) For the purposes of meeting the requirements in paragraph (c)(2) or (3) or paragraph (e)(4) or (5) of this section at mills producing both bleached and unbleached pulp products, owners and operators may meet a prorated mass standard that is calculated by prorating the applicable mass standards (kilograms of total HAP per megagram of ODP) for bleached and unbleached mills specified in paragraph (c)(2) or (3) or paragraph (e)(4) or (5) of this section by the ratio of annual megagrams of bleached and unbleached ODP.

[63 FR 18617, Apr. 15, 1998; 63 FR 42239, Aug. 7, 1998, as amended at 63 FR 49459, Sept. 16, 1998; 64 FR 17563, Apr. 12, 1999; 65 FR 80762, Dec. 22, 2000]

40 CFR 63.447 - Clean condensate alternative

As an alternative to the requirements specified in 40 CFR 63.443(a)(1)(ii) through (a)(1)(v) for the control of HAP emissions from pulping systems using the kraft process, an owner or operator must demonstrate to the satisfaction of the Administrator, by meeting all the requirements below, that the total HAP emissions reductions achieved by this clean condensate alternative technology are equal to or greater than the total HAP emission reductions that would have been achieved by compliance with 40 CFR 63.443(a)(1)(ii) through (a)(1)(v).

(a) For the purposes of this section only the following additional definitions apply.

(1) *Clean condensate alternative affected source* means the total of all HAP emission points in the pulping, bleaching, causticizing, and papermaking systems (exclusive of HAP emissions attributable to additives to paper machines and HAP emission points in the LVHC system).

(2) *Causticizing system* means all equipment associated with converting sodium carbonate into active sodium hydroxide. The equipment includes smelt dissolving tanks, lime mud washers and storage tanks, white and mud liquor clarifiers and storage tanks, slakers, slaker grit washers, lime kilns, green liquor clarifiers and storage tanks, and dreg washers ending with the white liquor storage tanks prior to the digester system, and any other equipment serving the same function as those previously listed.

(3) *Papermaking system* means all equipment used to convert pulp into paper, paperboard, or market pulp, including the stock storage and preparation systems, the paper or paperboard machines, and the paper machine white water system, broke recovery systems, and the systems involved in calendering, drying, on-machine coating, slitting, winding, and cutting.

(b) Each owner or operator shall install and operate a clean condensate alternative technology with a continuous monitoring system to reduce total HAP emissions by treating and reducing HAP concentrations in the pulping process water used within the clean condensate alternative affected source.

(c) Each owner or operator shall calculate HAP emissions on a kilogram per megagram of ODP basis and measure HAP emissions according to the appropriate procedures contained in 40 CFR 63.457.

(d) Each owner or operator shall determine the baseline HAP emissions for each equipment system and the total of all equipment systems in the clean condensate alternative affected source based on the following:

(1) Process and air pollution control equipment installed and operating on December 17, 1993, and

(2) Compliance with the following requirements that affect the level of HAP emissions from the clean condensate alternative affected source:

(i) The pulping process condensates requirements in 40 CFR 63.446;

(ii) The applicable effluent limitation guidelines and standards in 40 CFR 430 Subparts A, B, D, and E; and

(iii) All other applicable requirements of local, State, or Federal agencies or statutes.

(e) Each owner or operator shall determine the following HAP emission reductions from the baseline HAP emissions determined in paragraph (d) of this section for each equipment system and the total of all equipment systems in the clean condensate alternative affected source:

(1) The HAP emission reduction occurring by complying with the requirements of 40 CFR 63.443(a)(1)(ii) through (a)(1)(v); and

(2) The HAP emissions reduction occurring by complying with the clean condensate alternative technology.

(f) For the purposes of all requirements in this section, each owner or operator may use as an alternative, individual equipment systems (instead of total of all equipment systems) within the clean condensate alternative affected source to determine emissions and reductions to demonstrate equal or greater than the reductions that would have been achieved by compliance with 40 CFR 63.443(a)(1)(ii) through (a)(1)(v).

(g) The initial and updates to the control strategy report specified in 40 CFR 63.455(b) shall include to the extent possible the following information:

(1) A detailed description of:

(i) The equipment systems and emission points that comprise the clean condensate alternative affected source;

(ii) The air pollution control technologies that would be used to meet the requirements of 40 CFR 63.443(a)(1)(ii) through (a)(1)(v); and

(iii) The clean condensate alternative technology to be used.

(2) Estimates and basis for the estimates of total HAP emissions and emission reductions to fulfill the requirements of paragraphs (d), (e), and (f) of this section.

(h) Each owner or operator shall report to the Administrator by the applicable compliance date specified in 40 CFR 63.440(d) or (e) the rationale, calculations, test procedures, and data documentation used to demonstrate compliance with all the requirements of this section.

[63 FR 18617, Apr. 15, 1998; 63 FR 42239, Aug. 7, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

40 CFR 63.448-63.449 [Reserved]

40 CFR 63.450 - Standards for enclosures and closed-vent systems

(a) Each enclosure and closed-vent system specified in 40 CFR 63.443(c), 63.444(b), and 63.445(b) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in paragraphs (b) through (d) of this section.

(b) Each enclosure shall maintain negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in 40 CFR 63.457(e). Each enclosure or hood opening closed during the initial performance test specified in 40 CFR 63.457(a) shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs.

(c) Each component of the closed-vent system used to comply with 40 CFR 63.443(c), 63.444(b), and 63.445(b) that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in 40 CFR 63.457(d).

(d) Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations in 40 CFR 63.443, 63.444, or 63.445 shall comply with either of the following requirements:

(1) On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that is capable of taking periodic readings as frequently as specified in 40 CFR 63.454(e). The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or

(2) For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that valve or closure mechanism cannot be opened without breaking the seal.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 68 FR 37348, June 23, 2003]

40 CFR 63.451-63.452 [Reserved]

40 CFR 63.453 - Monitoring requirements

(a) Each owner or operator subject to the standards specified in 40 CFR 63.443(c) and (d), 63.444(b) and (c), 63.445(b) and (c), 63.446(c), (d), and (e), 63.447(b) or 40 CFR 63.450(d), shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS, as defined in 40 CFR 63.2 of 40 CFR 63) as specified in paragraphs (b) through (m) of this section, except as allowed in paragraph (m) of this section. The CMS shall include a continuous recorder.

(b) A CMS shall be operated to measure the temperature in the firebox or in the ductwork immediately downstream of the firebox and before any substantial heat exchange occurs for each thermal oxidizer used to comply with the requirements of 40 CFR 63.443(d)(1) through (d)(3). Owners and operators complying with the HAP concentration requirements in 40 CFR 63.443(d)(2) may install a CMS to monitor the thermal oxidizer outlet total HAP or methanol concentration, as an alternative to monitoring thermal oxidizer operating temperature.

(c) A CMS shall be operated to measure the following parameters for each gas scrubber used to comply with the bleaching system requirements of 40 CFR 63.445(c) or the sulfite pulping system requirements of 40 CFR 63.444(c).

(1) The pH or the oxidation/reduction potential of the gas scrubber effluent;

(2) The gas scrubber vent gas inlet flow rate; and

(3) The gas scrubber liquid influent flow rate.

(d) As an option to the requirements specified in paragraph (c) of this section, a CMS shall be operated to measure the chlorine outlet concentration of each gas scrubber used to comply with the bleaching system outlet concentration requirement specified in 40 CFR 63.445(c)(2).
(e) The owner or operator of a bleaching system complying with 40 CFR 430.24, shall monitor the chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system during the extended compliance period specified in 40 CFR 63.440(d)(3).
(f) A CMS shall be operated to measure the gas scrubber parameters specified in paragraphs (c)(1) through (c)(3) of this section or those site specific parameters determined according to the procedures specified in paragraph (n) of this section to comply with the sulfite pulping system requirements specified in 40 CFR 63.444(c).
(g) A CMS shall be operated to measure the following parameters for each steam stripper used to comply with the treatment requirements in 40 CFR 63.446(e) (3), (4), or (5):

(1) The process wastewater feed rate;
(2) The steam feed rate; and
(3) The process wastewater column feed temperature.

(h) As an option to the requirements specified in paragraph (g) of this section, a CMS shall be operated to measure the methanol outlet concentration to comply with the steam stripper outlet concentration requirement specified in 40 CFR 63.446 (e)(4) or (e)(5).
(i) A CMS shall be operated to measure the appropriate parameters determined according to the procedures specified in paragraph (n) of this section to comply with the condensate applicability requirements specified in 40 CFR 63.446(c).
(j) Each owner or operator using an open biological treatment system to comply with 40 CFR 63.446(e)(2) shall perform the daily monitoring procedures specified in either paragraph (j)(1) or (2) of this section and shall conduct a performance test each quarter using the procedures specified in paragraph (j)(3) of this section.

(1) Comply with the monitoring and sampling requirements specified in paragraphs (j)(1)(i) and (ii) of this section.

(i) On a daily basis, monitor the following parameters for each open biological treatment unit:

(A) Composite daily sample of outlet soluble BOD_5 concentration to monitor for maximum daily and maximum monthly average;
(B) Mixed liquor volatile suspended solids;
(C) Horsepower of aerator unit(s);
(D) Inlet liquid flow; and
(E) Liquid temperature.

(ii) If the Inlet and Outlet Concentration Measurement Procedure (Procedure 3) in Appendix C of 40 CFR 63 is used to determine the fraction of HAP compounds degraded in the biological treatment system as specified in 40 CFR 63.457(l), conduct the sampling and archival requirements specified in paragraphs (j)(1)(ii)(A) and (B) of this section.

(A) Obtain daily inlet and outlet liquid grab samples from each biological treatment unit to have HAP data available to perform quarterly performance tests specified in paragraph (j)(3) of this section and the compliance tests specified in paragraph (p) of this section.
(B) Store the samples as specified in 40 CFR 63.457(n) until after the results of the soluble BOD_5 test required in paragraph (j)(1)(i)(A) of this section are obtained. The storage requirement is needed since the soluble BOD_5 test requires 5 days or more to obtain results. If the results of the soluble BOD_5 test are outside of the range established during the initial performance test, then the archive sample shall be used to perform the mass removal or percent reduction determinations.

(2) As an alternative to the monitoring requirements of paragraph (j)(1) of this section, conduct daily monitoring of the site-specific parameters established according to the procedures specified in paragraph (n) of this section.
(3) Conduct a performance test as specified in 40 CFR 63.457(l) within 45 days after the beginning of each quarter and meet the applicable emission limit in 40 CFR 63.446(e)(2).

(i) The performance test conducted in the first quarter (annually) shall be performed for total HAP as specified in 40 CFR 63.457(g) and meet the percent reduction or mass removal emission limit specified in 40 CFR 63.446(e)(2).
(ii) The remaining quarterly performance tests shall be performed as specified in paragraph (j)(3)(i) of this section except owners or operators may use the applicable methanol procedure in 40 CFR

63.457(l)(1) or (2) and the value of r determined during the first quarter test instead of measuring the additional HAP to determine a new value of r.

(k) Each enclosure and closed-vent system used to comply with 40 CFR 63.450(a) shall comply with the requirements specified in paragraphs (k)(1) through (k)(6) of this section.

(1) For each enclosure opening, a visual inspection of the closure mechanism specified in 40 CFR 63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.

(2) Each closed-vent system required by 40 CFR 63.450(a) shall be visually inspected every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects.

(3) For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks as specified in 40 CFR 63.450(c) measured initially and annually by the procedures in 40 CFR 63.457(d).

(4) Demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in 40 CFR 63.457(e).

(5) The valve or closure mechanism specified in 40 CFR 63.450(d)(2) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.

(6) If an inspection required by paragraphs (k)(1) through (k)(5) of this section identifies visible defects in ductwork, piping, enclosures or connections to covers required by 40 CFR 63.450, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable.

(i) A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.

(ii) The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified. Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without a process unit shutdown or if the owner or operator determines that the emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(l) Each pulping process condensate closed collection system used to comply with 40 CFR 63.446(d) shall comply with the requirements specified in paragraphs (l)(1) through (l)(3) of this section.

(1) Each pulping process condensate closed collection system shall be visually inspected every 30 days and shall comply with the inspection and monitoring requirements specified in 40 CFR 63.964 of Subpart RR of 40 CFR 63, except:

(i) Owners or operators shall comply with the recordkeeping requirements of 40 CFR 63.454 instead of the requirements specified in 40 CFR 63.964(a)(1)(vi) and (b)(3) of Subpart RR of 40 CFR 63.

(ii) Owners or operators shall comply with the inspection and monitoring requirements for closed-vent systems and control devices specified in paragraphs (a) and (k) of this section instead of the requirements specified in 40 CFR 63.964(a)(2) of Subpart RR of 40 CFR 63.

(2) Each condensate tank used in the closed collection system shall be operated with no detectable leaks as specified in 40 CFR 63.446(d)(2)(i) measured initially and annually by the procedures specified in 40 CFR 63.457(d).

(3) If an inspection required by this section identifies visible defects in the closed collection system, or if an instrument reading of 500 parts per million or greater above background is measured, then corrective actions specified in 40 CFR 63.964(b) of Subpart RR of 40 CFR 63 shall be taken.

(m) Each owner or operator using a control device, technique or an alternative parameter other than those specified in paragraphs (b) through (l) of this section shall install a CMS and establish appropriate operating parameters to be monitored that demonstrate, to the Administrator's satisfaction, continuous compliance with the applicable control requirements.

(n) To establish or reestablish the value for each operating parameter required to be monitored under paragraphs (b) through (j), (l), and (m) of this section or to establish appropriate parameters for paragraphs (f), (i), (j)(2), and (m) of this section, each owner or operator shall use the following procedures:

(1) During the initial performance test required in 40 CFR 63.457(a) or any subsequent performance test, continuously record the operating parameter;

(2) Determinations shall be based on the control performance and parameter data monitored during the performance test, supplemented if necessary by engineering assessments and the manufacturer's recommendations;

(3) The owner or operator shall provide for the Administrator's approval the rationale for selecting the monitoring parameters necessary to comply with paragraphs (f), (i), and (m) of this section; and

(4) Provide for the Administrator's approval the rationale for the selected operating parameter value, and monitoring frequency, and averaging time. Include all data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the applicable emission standard.

(o) Each owner or operator of a control device subject to the monitoring provisions of this section shall operate the control device in a manner consistent with the minimum or maximum (as appropriate) operating parameter value or procedure required to be monitored under paragraphs (a) through (n) of this section and established under this Subpart. Except as provided in paragraph (p) of this section, 40 CFR 63.443(e), or 40 CFR 63.446(g), operation of the control device below minimum operating parameter values or above maximum operating parameter values established under this Subpart or failure to perform procedures required by this Subpart shall constitute a violation of the applicable emission standard of this Subpart and be reported as a period of excess emissions.

(p) The procedures of this paragraph apply to each owner or operator of an open biological treatment system complying with paragraph (j) of this section whenever a monitoring parameter excursion occurs, and the owner or operator chooses to conduct a performance test to demonstrate compliance with the applicable emission limit. A monitoring parameter excursion occurs whenever the monitoring parameters specified in paragraphs (j)(1)(i)(A) through (C) of this section or any of the monitoring parameters specified in paragraph (j)(2) of this section are below minimum operating parameter values or above maximum operating parameter values established in paragraph (n) of this section.

(1) As soon as practical after the beginning of the monitoring parameter excursion, the following requirements shall be met:

(i) Before the steps in paragraph (p)(1)(ii) or (iii) of this section are performed, all sampling and measurements necessary to meet the requirements in paragraph (p)(2) of this section shall be conducted.

(ii) Steps shall be taken to repair or adjust the operation of the process to end the parameter excursion period.

(iii) Steps shall be taken to minimize total HAP emissions to the atmosphere during the parameter excursion period.

(2) A parameter excursion is not a violation of the applicable emission standard if the results of the performance test conducted using the procedures in this paragraph demonstrate compliance with the applicable emission limit in 40 CFR 63.446(e)(2).

(i) Conduct a performance test as specified in 40 CFR 63.457 using the monitoring data specified in paragraph (j)(1) or (2) of this section that coincides with the time of the parameter excursion. No maintenance or changes shall be made to the open biological treatment system after the beginning of a parameter excursion that would influence the results of the performance test.

(ii) If the results of the performance test specified in paragraph (p)(2)(i) of this section demonstrate compliance with the applicable emission limit in 40 CFR 63.446(e)(2), then the parameter excursion is not a violation of the applicable emission limit.

(iii) If the results of the performance test specified in paragraph (p)(2)(i) of this section do not demonstrate compliance with the applicable emission limit in 40 CFR 63.446(e)(2) because the total HAP mass entering the open biological treatment system is below the level needed to demonstrate compliance with the applicable emission limit in 40 CFR 63.446(e)(2), then the owner or operator shall perform the following comparisons:

(A) If the value of f_{bio} (MeOH) determined during the performance test specified in paragraph (p)(2)(i) of this section is within the range of values established during the initial and subsequent performance tests approved by the Administrator, then the parameter excursion is not a violation of the applicable standard.

(B) If the value of f_{bio} (MeOH) determined during the performance test specified in paragraph (p)(2)(i) of this section is not within the range of values established during the initial and

subsequent performance tests approved by the Administrator, then the parameter excursion is a violation of the applicable standard.

(iv) The results of the performance test specified in paragraph (p)(2)(i) of this section shall be recorded as specified in 40 CFR 63.454(f).

(3) If an owner or operator determines that performing the required procedures under paragraph (p)(2) of this section for a nonthoroughly mixed open biological system would expose a worker to dangerous, hazardous, or otherwise unsafe conditions, all of the following procedures shall be performed:

(i) Calculate the mass removal or percent reduction value using the procedures specified in 40 CFR 63.457(l) except the value for f_{bio} (MeOH) shall be determined using the procedures in Appendix E to 40 CFR 63.

(ii) Repeat the procedures in paragraph (p)(3)(i) of this section for every day until the unsafe conditions have passed.

(iii) A parameter excursion is a violation of the standard if the percent reduction or mass removal determined in paragraph (p)(3)(i) of this section is less than the percent reduction or mass removal standards specified in 40 CFR 63.446(e)(2), as appropriate, unless the value of f_{bio} (MeOH) determined using the procedures in Appendix E of this section, as specified in paragraph (p)(3)(i), is within the range of f_{bio} (MeOH) values established during the initial and subsequent performance tests previously approved by the Administrator.

(iv) The determination that there is a condition that exposes a worker to dangerous, hazardous, or otherwise unsafe conditions shall be documented according to requirements in 40 CFR 63.454(e) and reporting in 40 CFR 63.455(f).

(v) The requirements of paragraphs (p)(1) and (2) of this section shall be performed and met as soon as practical but no later than 24 hours after the conditions have passed that exposed a worker to dangerous, hazardous, or otherwise unsafe conditions.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 65 FR 80762, Dec. 22, 2000]

<u>40 CFR 63.454 - Recordkeeping requirements</u>

(a) The owner or operator of each affected source subject to the requirements of this Subpart shall comply with the recordkeeping requirements of 40 CFR 63.10, as shown in Table 1 of this Subpart, and the requirements specified in paragraphs (b) through (f) of this section for the monitoring parameters specified in 40 CFR 63.453.

(b) For each applicable enclosure opening, closed-vent system, and closed collection system, the owner or operator shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of applicable affected equipment and shall record the following information for each inspection:

(1) Date of inspection;

(2) The equipment type and identification;

(3) Results of negative pressure tests for enclosures;

(4) Results of leak detection tests;

(5) The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);

(6) The date the defect or leak was detected and the date of each attempt to repair the defect or leak;

(7) Repair methods applied in each attempt to repair the defect or leak;

(8) The reason for the delay if the defect or leak is not repaired within 15 days after discovery;

(9) The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;

(10) The date of successful repair of the defect or leak;

(11) The position and duration of opening of bypass line valves and the condition of any valve seals; and

(12) The duration of the use of bypass valves on computer controlled valves.

(c) The owner or operator of a bleaching system complying with 40 CFR 63.440(d)(3)(ii)(B) shall record the daily average chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system until the requirements specified in 40 CFR 63.440(d)(3)(ii)(A) are met.

(d) The owner or operator shall record the CMS parameters specified in 40 CFR 63.453 and meet the requirements specified in paragraph (a) of this section for any new affected process equipment or pulping process condensate stream that becomes subject to the standards in this Subpart due to a process change or modification.

(e) The owner or operator shall set the flow indicator on each bypass line specified in 40 CFR 63.450(d)(1) to provide a record of the presence of gas stream flow in the bypass line at least once every 15 minutes.
(f) The owner or operator of an open biological treatment system complying with 40 CFR 63.453(p) shall prepare a written record specifying the results of the performance test specified in 40 CFR 63.453(p)(2).
[63 FR 18617, Apr. 15, 1998, as amended at 65 FR 80763, Dec. 22, 2000; 68 FR 37348, June 23, 2003]

40 CFR 63.455 - Reporting requirements

(a) Each owner or operator of a source subject to this Subpart shall comply with the reporting requirements of Subpart A of 40 CFR 63 as specified in Table 1 and all the following requirements in this section. The initial notification report specified under 40 CFR 63.9(b)(2) of Subpart A of 40 CFR 63 shall be submitted by April 15, 1999.
(b) Each owner or operator of a kraft pulping system specified in 40 CFR 63.440(d)(1) or a bleaching system specified in 40 CFR 63.440(d)(3)(ii) shall submit, with the initial notification report specified under 40 CFR 63.9(b)(2) of Subpart A of 40 CFR 63 and paragraph (a) of this section and update every two years thereafter, a non-binding control strategy report containing, at a minimum, the information specified in paragraphs (b)(1) through (b)(3) of this section in addition to the information required in 40 CFR 63.9(b)(2) of Subpart A of 40 CFR 63.

(1) A description of the emission controls or process modifications selected for compliance with the control requirements in this standard.
(2) A compliance schedule, including the dates by which each step toward compliance will be reached for each emission point or sets of emission points. At a minimum, the list of dates shall include:
(i) The date by which the major study(s) for determining the compliance strategy will be completed;
(ii) The date by which contracts for emission controls or process modifications will be awarded, or the date by which orders will be issued for the purchase of major components to accomplish emission controls or process changes;
(iii) The date by which on-site construction, installation of emission control equipment, or a process change is to be initiated;
(iv) The date by which on-site construction, installation of emissions control equipment, or a process change is to be completed;
(v) The date by which final compliance is to be achieved;
(vi) For compliance with paragraph 40 CFR 63.440(d)(3)(ii), the tentative dates by which compliance with effluent limitation guidelines and standards intermediate pollutant load effluent reductions and as available, all the dates for the best available technology's milestones reported in the National Pollutant Discharge Elimination System authorized under section 402 of the Clean Water Act and for the best professional milestones in the Voluntary Advanced Technology Incentives Program under 40 CFR 430.24 (b)(2); and
(vii) The date by which the final compliance tests will be performed.
(3) Until compliance is achieved, revisions or updates shall be made to the control strategy report required by paragraph (b) of this section indicating the progress made towards completing the installation of the emission controls or process modifications during the 2-year period.

(c) The owner or operator of each bleaching system complying with 40 CFR 63.440(d)(3)(ii)(B) shall certify in the report specified under 40 CFR 63.10(e)(3) of Subpart A of 40 CFR 63 that the daily application rates of chlorine and hypochlorite for that bleaching system have not increased as specified in 40 CFR 63.440(d)(3)(ii)(B) until the requirements of 40 CFR 63.440(d)(3)(ii)(A) are met.
(d) The owner or operator shall meet the requirements specified in paragraph (a) of this section upon startup of any new affected process equipment or pulping process condensate stream that becomes subject to the standards of this Subpart due to a process change or modification.
(e) If the owner or operator uses the results of the performance test required in 40 CFR 63.453(p)(2) to revise the approved values or ranges of the monitoring parameters specified in 40 CFR 63.453(j)(1) or (2), the owner or operator shall submit an initial notification of the subsequent performance test to the Administrator as soon as practicable, but no later than 15 days, before the performance test required in 40 CFR 63.453(p)(2) is scheduled to be conducted. The owner or operator shall notify the Administrator as soon as practicable, but no later than 24 hours, before the performance test is scheduled to be conducted to confirm the exact date and time of the performance test.

(f) To comply with the open biological treatment system monitoring provisions of 40 CFR 63.453(p)(3), the owner or operator shall notify the Administrator as soon as practicable of the onset of the dangerous, hazardous, or otherwise unsafe conditions that did not allow a compliance determination to be conducted using the sampling and test procedures in 40 CFR 63.457(l). The notification shall occur no later than 24 hours after the onset of the dangerous, hazardous, or otherwise unsafe conditions and shall include the specific reason(s) that the sampling and test procedures in 40 CFR 63.457(l) could not be performed.
[63 FR 18617, Apr. 15, 1998, as amended at 65 FR 80763, Dec. 22, 2000]

40 CFR 63.456 [Reserved]

40 CFR 63.457 - Test methods and procedures

(a) Initial performance test. An initial performance test is required for all emission sources subject to the limitations in 40 CFR 63.443, 63.444, 63.445, 63.446, and 63.447, except those controlled by a combustion device that is designed and operated as specified in 40 CFR 63.443(d)(3) or (d)(4).

(b) Vent sampling port locations and gas stream properties. For purposes of selecting vent sampling port locations and determining vent gas stream properties, required in 40 CFR 63.443, 63.444, 63.445, and 63.447, each owner or operator shall comply with the applicable procedures in paragraphs (b)(1) through (b)(6) of this section.

(1) Method 1 or 1A of 40 CFR 60 Appendix A, as appropriate, shall be used for selection of the sampling site as follows:

(i) To sample for vent gas concentrations and volumetric flow rates, the sampling site shall be located prior to dilution of the vent gas stream and prior to release to the atmosphere;

(ii) For determining compliance with percent reduction requirements, sampling sites shall be located prior to the inlet of the control device and at the outlet of the control device; measurements shall be performed simultaneously at the two sampling sites; and

(iii) For determining compliance with concentration limits or mass emission rate limits, the sampling site shall be located at the outlet of the control device.

(2) No traverse site selection method is needed for vents smaller than 0.10 meter (4.0 inches) in diameter.

(3) The vent gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR 60 Appendix A, as appropriate.

(4) The moisture content of the vent gas shall be measured using Method 4 of 40 CFR 60 Appendix A.

(5) To determine vent gas concentrations, the owner or operator shall conduct a minimum of three test runs that are representative of normal conditions and average the resulting pollutant concentrations using the following procedures.

(i) Method 308 in Appendix A of 40 CFR 63 shall be used to determine the methanol concentration.

(ii) Except for the modifications specified in paragraphs (b)(5)(ii)(A) through (b)(5)(ii)(K) of this section, Method 26A of 40 CFR 60 Appendix A shall be used to determine chlorine concentration in the vent stream.

(A) Probe/sampling line. A separate probe is not required. The sampling line shall be an appropriate length of 0.64 cm (0.25 in) OD Teflon® tubing. The sample inlet end of the sampling line shall be inserted into the stack in such a way as to not entrain liquid condensation from the vent gases. The other end shall be connected to the impingers. The length of the tubing may vary from one sampling site to another, but shall be as short as possible in each situation. If sampling is conducted in sunlight, opaque tubing shall be used. Alternatively, if transparent tubing is used, it shall be covered with opaque tape.

(B) Impinger train. Three 30 milliliter (ml) capacity midget impingers shall be connected in series to the sampling line. The impingers shall have regular tapered stems. Silica gel shall be placed in the third impinger as a desiccant. All impinger train connectors shall be glass and/or Teflon®.

(C) Critical orifice. The critical orifice shall have a flow rate of 200 to 250 ml/min and shall be followed by a vacuum pump capable of providing a vacuum of 640 millimeters of mercury (mm Hg). A 45 millimeter diameter in-line Teflon 0.8 micrometer filter shall follow the impingers to protect the critical orifice and vacuum pump.

(D) The following are necessary for the analysis apparatus:

(*1*) Wash bottle filled with deionized water;

(*2*) 25 or 50 ml graduated burette and stand;

(*3*) Magnetic stirring apparatus and stir bar;

(*4*) Calibrated pH Meter;

(*5*) 150-250 ml beaker or flask; and

(*6*) A 5 ml pipette.

(E) The procedures listed in paragraphs (b)(5)(ii)(E)(*1*) through (b)(5)(ii)(E)(*7*) of this section shall be used to prepare the reagents.

(*1*) To prepare the 1 molarity (M) potassium dihydrogen phosphate solution, dissolve 13.61 grams (g) of potassium dihydrogen phosphate in water and dilute to 100 ml.

(*2*) To prepare the 1 M sodium hydroxide solution (NaOH), dissolve 4.0 g of sodium hydroxide in water and dilute to 100 ml.

(*3*) To prepare the buffered 2 percent potassium iodide solution, dissolve 20 g of potassium iodide in 900 ml water. Add 50 ml of the 1 M potassium dihydrogen phosphate solution and 30 ml of the 1 M sodium hydroxide solution. While stirring solution, measure the pH of solution electrometrically and add the 1 M sodium hydroxide solution to bring pH to between 6.95 and 7.05.

(*4*) To prepare the 0.1 normality (N) sodium thiosulfate solution, dissolve 25 g of sodium thiosulfate, pentahydrate, in 800 ml of freshly boiled and cooled distilled water in a 1-liter volumetric flask. Dilute to volume. To prepare the 0.01 N sodium thiosulfate solution, add 10.0 ml standardized 0.1 N sodium thiosulfate solution to a 100 ml volumetric flask, and dilute to volume with water.

(*5*) To standardize the 0.1 N sodium thiosulfate solution, dissolve 3.249 g of anhydrous potassium bi-iodate, primary standard quality, or 3.567 g potassium iodate dried at 103 =/− 2 degrees Centigrade for 1 hour, in distilled water and dilute to 1000 ml to yield a 0.1000 N solution. Store in a glass-stoppered bottle. To 80 ml distilled water, add, with constant stirring, 1 ml concentrated sulfuric acid, 10.00 ml 0.1000 N anhydrous potassium bi-iodate, and 1 g potassium iodide. Titrate immediately with 0.1 n sodium thiosulfate titrant until the yellow color of the liberated iodine is almost discharged. Add 1 ml starch indicator solution and continue titrating until the blue color disappears. The normality of the sodium thiosulfate solution is inversely proportional to the ml of sodium thiosulfate solution consumed:

$$\text{Normality of } \textit{Sodium Thiosulfate} = \frac{1}{\text{ml Sodium Thiosulfate Consumed}}$$

(*6*) To prepare the starch indicator solution, add a small amount of cold water to 5 g starch and grind in a mortar to obtain a thin paste. Pour paste into 1 L of boiling distilled water, stir, and let settle overnight. Use clear supernate for starch indicator solution.

(*7*) To prepare the 10 percent sulfuric acid solution, add 10 ml of concentrated sulfuric acid to 80 ml water in a 100 ml volumetric flask. Dilute to volume.

(F) The procedures specified in paragraphs (b)(5)(ii)(F)(*1*) through (b)(5)(ii)(F)(*5*) of this section shall be used to perform the sampling.

(*1*) Preparation of collection train. Measure 20 ml buffered potassium iodide solution into each of the first two impingers and connect probe, impingers, filter, critical orifice, and pump. The sampling line and the impingers shall be shielded from sunlight.

(*2*) Leak and flow check procedure. Plug sampling line inlet tip and turn on pump. If a flow of bubbles is visible in either of the liquid impingers, tighten fittings and adjust connections and impingers. A leakage rate not in excess of 2 percent of the sampling rate is acceptable. Carefully remove the plug from the end of the probe. Check the flow rate

at the probe inlet with a bubble tube flow meter. The flow should be comparable or slightly less than the flow rate of the critical orifice with the impingers off-line. Record the flow and turn off the pump.

(*3*) Sample collection. Insert the sampling line into the stack and secure it with the tip slightly lower than the port height. Start the pump, recording the time. End the sampling after 60 minutes, or after yellow color is observed in the second in-line impinger. Record time and remove the tubing from the vent. Recheck flow rate at sampling line inlet and turn off pump. If the flow rate has changed significantly, redo sampling with fresh capture solution. A slight variation (less than 5 percent) in flow may be averaged. With the inlet end of the line elevated above the impingers, add about 5 ml water into the inlet tip to rinse the line into the first impinger.

(*4*) Sample analysis. Fill the burette with 0.01 N sodium thiosulfate solution to the zero mark. Combine the contents of the impingers in the beaker or flask. Stir the solution and titrate with thiosulfate until the solution is colorless. Record the volume of the first endpoint (TN, ml). Add 5 ml of the 10 percent sulfuric acid solution, and continue the titration until the contents of the flask are again colorless. Record the total volume of titrant required to go through the first and to the second endpoint (TA, ml). If the volume of neutral titer is less than 0.5 ml, repeat the testing for a longer period of time. It is important that sufficient lighting be present to clearly see the endpoints, which are determined when the solution turns from pale yellow to colorless. A lighted stirring plate and a white background are useful for this purpose.

(*5*) Interferences. Known interfering agents of this method are sulfur dioxide and hydrogen peroxide. Sulfur dioxide, which is used to reduce oxidant residuals in some bleaching systems, reduces formed iodine to iodide in the capture solution. It is therefore a negative interference for chlorine, and in some cases could result in erroneous negative chlorine concentrations. Any agent capable of reducing iodine to iodide could interfere in this manner. A chromium trioxide impregnated filter will capture sulfur dioxide and pass chlorine and chlorine dioxide. Hydrogen peroxide, which is commonly used as a bleaching agent in modern bleaching systems, reacts with iodide to form iodine and thus can cause a positive interference in the chlorine measurement. Due to the chemistry involved, the precision of the chlorine analysis will decrease as the ratio of chlorine dioxide to chlorine increases. Slightly negative calculated concentrations of chlorine may occur when sampling a vent gas with high concentrations of chlorine dioxide and very low concentrations of chlorine.

(G) The following calculation shall be performed to determine the corrected sampling flow rate:

$$S_C = S_U \left(\frac{BP - PW}{760} \right) \left(\frac{293}{273 + t} \right)$$

Where:
S_C = Corrected (dry standard) sampling flow rate, liters per minute;
S_U = Uncorrected sampling flow rate, L/min;
BP = Barometric pressure at time of sampling;
PW = Saturated partial pressure of water vapor, mm Hg at temperature; and
t = Ambient temperature, °C.

(H) The following calculation shall be performed to determine the moles of chlorine in the sample:

$$Cl_2 Moles = 1/8000 \left(5\, T_N - T_A \right) \times N_{Thio}$$

Where:

T_N = Volume neutral titer, ml;
T_A = Volume acid titer (total), ml; and
N_{Thio} - Normality of sodium thiosulfate titrant.

(I) The following calculation shall be performed to determine the concentration of chlorine in the sample:

$$Cl_2 ppmv = \frac{3005(5\,T_N - T_A) \times N_{Thio}}{S_C \times t_S}$$

Where:

S_C = Corrected (dry standard) sampling flow rate, liters per minute;
t_S = Time sampled, minutes;
T_N = Volume neutral titer, ml;
T_A = Volume acid titer (total), ml; and
N_{Thio} = Normality of sodium thiosulfate titrant.

(J) The following calculation shall be performed to determine the moles of chlorine dioxide in the sample:

$$ClO_2\ Moles = 1/4000(T_A - T_N) \times N_{Thio}$$

Where:

T_A = Volume acid titer (total), ml;
T_N = Volume neutral titer, ml; and
N_{Thio} = Normality of sodium thiosulfate titrant.

(K) The following calculation shall be performed to determine the concentration of chlorine dioxide in the sample:

$$ClO_2\ ppmv = \frac{6010(T_A - T_N) \times N_{Thio}}{S_C \times t_S}$$

Where:

S_C = Corrected (dry standard) sampling flow rate, liters per minute;
t_S = Time sampled, minutes;
T_A = Volume acid titer (total), ml;
T_N = Volume neutral titer, ml; and
N_{Thio} = Normality of sodium thiosulfate titrant.

(iii) Any other method that measures the total HAP or methanol concentration that has been demonstrated to the Administrator's satisfaction.

(6) The minimum sampling time for each of the three test runs shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the test run.

(c) Liquid sampling locations and properties. For purposes of selecting liquid sampling locations and for determining properties of liquid streams such as wastewaters, process waters, and condensates required in 40 CFR 63.444, 63.446, and 63.447, the owner or operator shall comply with the following procedures:

(1) Samples shall be collected using the sampling procedures of the test method listed in paragraph (c)(3) of this section selected to determine liquid stream HAP concentrations;

(i) Where feasible, samples shall be taken from an enclosed pipe prior to the liquid stream being exposed to the atmosphere; and

(ii) When sampling from an enclosed pipe is not feasible, samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of HAP compounds prior to sampling.

(2) The volumetric flow rate of the entering and exiting liquid streams shall be determined using the inlet and outlet flow meters or other methods demonstrated to the Administrator's satisfaction. The volumetric flow rate measurements to determine actual mass removal shall be taken at the same time as the concentration measurements.

(3) The owner or operator shall conduct a minimum of three test runs that are representative of normal conditions and average the resulting pollutant concentrations. The minimum sampling time for each test run shall be 1 hour and the grab or composite samples shall be taken at approximately equally spaced intervals over the 1-hour test run period. The owner or operator shall use one of the following procedures to determine total HAP or methanol concentration:

(i) Method 305 in Appendix A of 40 CFR 63, adjusted using the following equation:

$$\overline{C} = \sum_{i=1}^{n} C_i / fm_i$$

Where:

C = Pollutant concentration for the liquid stream, parts per million by weight.

C_i = Measured concentration of pollutant i in the liquid stream sample determined using Method 305, parts per million by weight.

fm_i = Pollutant-specific constant that adjusts concentration measured by Method 305 to actual liquid concentration; the fm for methanol is 0.85. Additional pollutant fm values can be found in Table 34, Subpart G of 40 CFR 63.

n = Number of individual pollutants, i, summed to calculate total HAP.

(ii) For determining methanol concentrations, NCASI Method DI/MEOH-94.02, Methanol in Process Liquids by GC/FID, August 1998, Methods Manual, NCASI, Research Triangle Park, NC. This test method is incorporated by reference in 40 CFR 63.14(f) of Subpart A of 40 CFR 63.

(iii) Any other method that measures total HAP concentration that has been demonstrated to the Administrator's satisfaction.

(4) To determine soluble BOD_5in the effluent stream from an open biological treatment unit used to comply with 40 CFR 63.446(e)(2) and 63.453(j), the owner or operator shall use Method 405.1 of 40 CFR 136 of this chapter with the following modifications:

(i) Filter the sample through the filter paper, into an Erlenmeyer flask by applying a vacuum to the flask sidearm. Minimize the time for which vacuum is applied to prevent stripping of volatile organics from the sample. Replace filter paper as often as needed in order to maintain filter times of less than approximately 30 seconds per filter paper. No rinsing of sample container or filter bowl into the Erlenmeyer flask is allowed.

(ii) Perform Method 405.1 on the filtrate obtained in paragraph (c)(4) of this section. Dilution water shall be seeded with 1 milliliter of final effluent per liter of dilution water. Dilution ratios may require adjustment to reflect the lower oxygen demand of the filtered sample in comparison to the total BOD_5. Three BOD bottles and different dilutions shall be used for each sample.

(5) If the test method used to determine HAP concentration indicates that a specific HAP is not detectable, the value determined as the minimum measurement level (MML) of the selected test method for the specific HAP shall be used in the compliance demonstration calculations. To determine the MML for a specific HAP using one

of the test methods specified in paragraph (c)(3) of this section, one of the procedures specified in paragraphs (c)(5)(i) and (ii) of this section shall be performed. The MML for a particular HAP must be determined only if the HAP is not detected in the normal working range of the method.

(i) To determine the MML for a specific HAP, the following procedures shall be performed each time the method is set up. Set up is defined as the first time the analytical apparatus is placed in operation, after any shut down of 6 months or more, or any time a major component of the analytical apparatus is replaced.

(A) Select a concentration value for the specific HAP in question to represent the MML. The value of the MML selected shall not be below the calibration standard of the selected test method.

(B) Measure the concentration of the specific HAP in a minimum of three replicate samples using the selected test method. All replicate samples shall be run through the entire analytical procedure. The samples must contain the specific HAP at the selected MML concentration and should be representative of the liquid streams to be analyzed in the compliance demonstration. Spiking of the liquid samples with a known concentration of the target HAP may be necessary to ensure that the HAP concentration in the three replicate samples is at the selected MML. The concentration of the HAP in the spiked sample must be within 50 percent of the proposed MML for the demonstration to be valid. As an alternative to spiking, a field sample above the MML may be diluted to produce a HAP concentration at the MML. To be a valid demonstration, the diluted sample must have a HAP concentration within 20 percent of the proposed MML, and the field sample must not be diluted by more than a factor of five.

(C) Calculate the relative standard deviation (RSD) and the upper confidence limit at the 95 percent confidence level using the measured HAP concentrations determined in paragraph (c)(5)(i)(B) of this section. If the upper confidence limit of the RSD is less than 30 percent, then the selected MML is acceptable. If the upper confidence limit of the RSD is greater than or equal to 30 percent, then the selected MML is too low, and the procedures specified in paragraphs (c)(5)(i)(A) through (C) of this section must be repeated.

(ii) Provide for the Administrator's approval the selected value of the MML for a specific HAP and the rationale for selecting the MML including all data and calculations used to determine the MML. The approved MML must be used in all applicable compliance demonstration calculations.

(6) When using the MML determined using the procedures in paragraph (c)(5)(ii) of this section or when using the MML determined using the procedures in paragraph (c)(5)(i), except during set up, the analytical laboratory conducting the analysis must perform and meet the following quality assurance procedures each time a set of samples is analyzed to determine compliance.

(i) Using the selected test method, analyze in triplicate the concentration of the specific HAP in a representative sample. The sample must contain the specific HAP at a concentration that is within a factor of two of the MML. If there are no samples in the set being analyzed that contain the specific HAP at an appropriate concentration, then a sample below the MML may be spiked to produce the appropriate concentration, or a sample at a higher level may be diluted. After spiking, the sample must contain the specific HAP within 50 percent of the MML. If dilution is used instead, the diluted sample must contain the specific HAP within 20 percent of the MML and must not be diluted by more than a factor of five.

(ii) Calculate the RSD using the measured HAP concentrations determined in paragraph (c)(6)(i) of this section. If the RSD is less than 20 percent, then the laboratory is performing acceptably.

(d) Detectable leak procedures. To measure detectable leaks for closed-vent systems as specified in 40 CFR 63.450 or for pulping process wastewater collection systems as specified in 40 CFR 63.446(d)(2)(i), the owner or operator shall comply with the following:

(1) Method 21, of 40 CFR 60 Appendix A; and

(2) The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used:

(i) Zero air (less than 10 parts per million by volume of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.

(e) Negative pressure procedures. To demonstrate negative pressure at process equipment enclosure openings as specified in 40 CFR 63.450(b), the owner or operator shall use one of the following procedures:

(1) An anemometer to demonstrate flow into the enclosure opening;

(2) Measure the static pressure across the opening;

(3) Smoke tubes to demonstrate flow into the enclosure opening; or

(4) Any other industrial ventilation test method demonstrated to the Administrator's satisfaction.

(f) HAP concentration measurements. For purposes of complying with the requirements in 40 CFR 63.443, 63.444, and 63.447, the owner or operator shall measure the total HAP concentration as one of the following:

(1) As the sum of all individual HAPs; or

(2) As methanol.

(g) Condensate HAP concentration measurement. For purposes of complying with the kraft pulping condensate requirements in 40 CFR 63.446, the owner or operator shall measure the total HAP concentration as methanol. For biological treatment systems complying with 40 CFR 63.446(e)(2), the owner or operator shall measure total HAP as acetaldehyde, methanol, methyl ethyl ketone, and propionaldehyde and follow the procedures in 40 CFR 63.457(l)(1) or (2).

(h) Bleaching HAP concentration measurement. For purposes of complying with the bleaching system requirements in 40 CFR 63.445, the owner or operator shall measure the total HAP concentration as the sum of all individual chlorinated HAPs or as chlorine.

(i) Vent gas stream calculations. To demonstrate compliance with the mass emission rate, mass emission rate per megagram of ODP, and percent reduction requirements for vent gas streams specified in 40 CFR 63.443, 63.444, 63.445, and 63.447, the owner or operator shall use the following:

(1) The total HAP mass emission rate shall be calculated using the following equation:

$$E = K_2 \left[\sum_{j=1}^{n} C_j M_j \right] Q_s$$

Where:

E = Mass emission rate of total HAP from the sampled vent, kilograms per hour.

K_2 = Constant, 2.494×10^{-6} (parts per million by volume)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram) (minutes/hour), where standard temperature for (gram-mole per standard cubic meter) is 20 °C.

C_j = Concentration on a dry basis of pollutant j in parts per million by volume as measured by the test methods specified in paragraph (b) of this section.

M_j = Molecular weight of pollutant j, gram/gram-mole.

Q_s = Vent gas stream flow rate (dry standard cubic meter per minute) at a temperature of 20 °C as indicated in paragraph (b) of this section.

n = Number of individual pollutants, i, summed to calculate total HAP.

(2) The total HAP mass emission rate per megagram of ODP shall be calculated using the following equation:

$$F = \frac{E}{P}$$

Where:

F = Mass emission rate of total HAP from the sampled vent, in kilograms per megagram of ODP.

E = Mass emission rate of total HAP from the sampled vent, in kilograms per hour determined as specified in paragraph (i)(1) of this section.

P = The production rate of pulp during the sampling period, in megagrams of ODP per hour.

(3) The total HAP percent reduction shall be calculated using the following equation:

$$R = \frac{E_i - E_O}{E_i}(100)$$

Where:

R = Efficiency of control device, percent.
Ei = Inlet mass emission rate of total HAP from the sampled vent, in kilograms of pollutant per hour, determined as specified in paragraph (i)(1) of this section.
E_o = Outlet mass emission rate of total HAP from the sampled vent, in kilograms of pollutant per hour, determined as specified in paragraph (i)(1) of this section.

(j) Liquid stream calculations. To demonstrate compliance with the mass flow rate, mass per megagram of ODP, and percent reduction requirements for liquid streams specified in 40 CFR 63.446, the owner or operator shall use the following:

(1) The mass flow rates of total HAP or methanol entering and exiting the treatment process shall be calculated using the following equations:

$$E_b = \frac{K}{n \times 10^6}\left(\sum_{i=1}^{n} V_{bi} C_{bi}\right)$$

$$E_a = \frac{K}{n \times 10^6}\left(\sum_{i=1}^{n} V_{ai} C_{ai}\right)$$

Where:

E_b = Mass flow rate of total HAP or methanol in the liquid stream entering the treatment process, kilograms per hour.
E_a = Mass flow rate of total HAP or methanol in the liquid exiting the treatment process, kilograms per hour.
K = Density of the liquid stream, kilograms per cubic meter.
V_{bi} = Volumetric flow rate of liquid stream entering the treatment process during each run i, cubic meters per hour, determined as specified in paragraph (c) of this section.
V_a = Volumetric flow rate of liquid stream exiting the treatment process during each run i, cubic meters per hour, determined as specified in paragraph (c) of this section.
C_{bi} = Concentration of total HAP or methanol in the stream entering the treatment process during each run i, parts per million by weight, determined as specified in paragraph (c) of this section.
C_{ai} = Concentration of total HAP or methanol in the stream exiting the treatment process during each run i, parts per million by weight, determined as specified in paragraph (c) of this section.
n = Number of runs.

(2) The mass of total HAP or methanol per megagram ODP shall be calculated using the following equation:

$$F = \frac{E_a}{P}$$

Where:

F = Mass loading of total HAP or methanol in the sample, in kilograms per megagram of ODP.
E_a = ass flow rate of total HAP or methanol in the wastewater stream in kilograms per hour as determined using the procedures in paragraph (j)(1) of this section.

P = The production rate of pulp during the sampling period in megagrams of ODP per hour.

(3) The percent reduction of total HAP across the applicable treatment process shall be calculated using the following equation:

$$R = \frac{E_b - E_a}{E_b} \times 100$$

Where:

R = Control efficiency of the treatment process, percent.
E_b = Mass flow rate of total HAP in the stream entering the treatment process, kilograms per hour, as determined in paragraph (j)(1) of this section.
E_a = Mass flow rate of total HAP in the stream exiting the treatment process, kilograms per hour, as determined in paragraph (j)(1) of this section.

(4) Compounds that meet the requirements specified in paragraphs (j)(4)(i) or (4)(ii) of this section are not required to be included in the mass flow rate, mass per megagram of ODP, or the mass percent reduction determinations.

(i) Compounds with concentrations at the point of determination that are below 1 part per million by weight; or

(ii) Compounds with concentrations at the point of determination that are below the lower detection limit where the lower detection limit is greater than 1 part per million by weight.

(k) Oxygen concentration correction procedures. To demonstrate compliance with the total HAP concentration limit of 20 ppmv in 40 CFR 63.443(d)(2), the concentration measured using the methods specified in paragraph (b)(5) of this section shall be corrected to 10 percent oxygen using the following procedures:

(1) The emission rate correction factor and excess air integrated sampling and analysis procedures of Methods 3A or 3B of 40 CFR 60 Appendix A shall be used to determine the oxygen concentration. The samples shall be taken at the same time that the HAP samples are taken.

(2) The concentration corrected to 10 percent oxygen shall be computed using the following equation:

$$C_c = C_m \left(\frac{10.9}{20.9 - \%O_{2d}} \right)$$

Where:

C_c = Concentration of total HAP corrected to 10 percent oxygen, dry basis, parts per million by volume.
C_m = Concentration of total HAP dry basis, parts per million by volume, as specified in paragraph (b) of this section.
$\%0_{2d}$ = Concentration of oxygen, dry basis, percent by volume.

(l) Biological treatment system percent reduction and mass removal calculations. To demonstrate compliance with the condensate treatment standards specified in 40 CFR 63.446(e)(2) and the monitoring requirements specified in 40 CFR 63.453(j)(3) using a biological treatment system, the owner or operator shall use one of the procedures specified in paragraphs (1)(1) and (2) of this section. Owners or operators using a nonthoroughly mixed open biological treatment system shall also comply with paragraph (1)(3) of this section.

(1) Percent reduction methanol procedure. For the purposes of complying with the condensate treatment requirements specified in 40 CFR 63.446(e)(2) and (3), the methanol percent reduction shall be calculated using the following equations:

$$R = \frac{f_{bio}(MeOH)}{(1+1.087(r))} * 100$$

$$r = \frac{F_{(nonmethanol)}}{F_{(methanol)}}$$

Where:

R = Percent destruction.
f_{bio} (MeOH) = The fraction of methanol removed in the biological treatment system. The site-specific biorate constants shall be determined using the appropriate procedures specified in Appendix C of 40 CFR 63.
r = Ratio of the sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass to methanol mass.
F(nonmethanol) = The sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass flow rates (kg/Mg ODP) entering the biological treatment system determined using the procedures in paragraph (j)(2) of this section.
F(methanol) = The mass flow rate (kg/Mg ODP) of methanol entering the system determined using the procedures in paragraph (j)(2) of this section.

(2) Mass removal methanol procedure. For the purposes of complying with the condensate treatment requirements specified in 40 CFR 63.446(e)(2) and (4), or 40 CFR 63.446(e)(2) and (5), the methanol mass removal shall be calculated using the following equation:

$$F = F_b * \left(f_{bio}(MeOH) / (1+1.087(r))\right)$$

Where:

F = Methanol mass removal (kg/Mg ODP).
F_b= Inlet mass flow rate of methanol (kg/Mg ODP) determined using the procedures in paragraph (j)(2) of this section.
f_{bio} (MeOH) = The fraction of methanol removed in the biological treatment system. The site-specific biorate constants shall be determined using the appropriate procedures specified in Appendix C of 40 CFR 63.
r = Ratio of the sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass to methanol mass determined using the procedures in paragraph (1) of this section.

(3) The owner or operator of a nonthoroughly mixed open biological treatment system using the monitoring requirements specified in 40 CFR 63.453(p)(3) shall follow the procedures specified in section III.B.1 of Appendix E of 40 CFR 63 to determine the borate constant, Ks, and characterize the open biological treatment system during the initial and any subsequent performance tests.

(m) Condensate segregation procedures. The following procedures shall be used to demonstrate compliance with the condensate segregation requirements specified in 40 CFR 63.446(c).

(1) To demonstrate compliance with the percent mass requirements specified in 40 CFR 63.446(c)(2), the procedures specified in paragraphs (m)(1)(i) through (iii) of this section shall be performed.

(i) Determine the total HAP mass of all condensates from each equipment system listed in 40 CFR 63.446 (b)(1) through (b)(3) using the procedures specified in paragraphs (c) and (j) of this section.

(ii) Multiply the total HAP mass determined in paragraph (m)(1)(i) of this section by 0.65 to determine the target HAP mass for the high-HAP fraction condensate stream or streams.

(iii) Compliance with the segregation requirements specified in 40 CFR 63.446(c)(2) is demonstrated if the condensate stream or streams from each equipment system listed in 40 CFR 63.446(b)(1) through (3) being treated as specified in 40 CFR 63.446(e) contain at least as much total HAP mass as the target total HAP mass determined in paragraph (m)(1)(ii) of this section.

(2) To demonstrate compliance with the percent mass requirements specified in 40 CFR 63.446(c)(3), the procedures specified in paragraphs (m)(2)(i) through (ii) of this section shall be performed.

(i) Determine the total HAP mass contained in the high-HAP fraction condensates from each equipment system listed in 40 CFR 63.446(b)(1) through (b)(3) and the total condensates streams from the equipment systems listed in 40 CFR 63.446(b)(4) and (b)(5), using the procedures specified in paragraphs (c) and (j) of this section.

(ii) Compliance with the segregation requirements specified in 40 CFR 63.446(c)(3) is demonstrated if the total HAP mass determined in paragraph (m)(2)(i) of this section is equal to or greater than the appropriate mass requirements specified in 40 CFR 63.446(c)(3).

(n) Open biological treatment system monitoring sampling storage. The inlet and outlet grab samples required to be collected in 40 CFR 63.453(j)(1)(ii) shall be stored at 4° C (40° F) to minimize the biodegradation of the organic compounds in the samples.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17564, Apr. 12, 1999; 65 FR 80763, Dec. 22, 2000; 66 FR 24269, May 14, 2001]

40 CFR 63.458 - Implementation and enforcement

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

(b) In delegating implementation and enforcement authority of this Subpart to a State, local, or Tribal agency under Subpart E of 40 CFR 63, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

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

(1) Approval of alternatives to the requirements in 40 CFR 63.440, 63.443 through 63.447 and 63.450. Where these standards reference another Subpart, the cited provisions will be delegated according to the delegation provisions of the referenced Subpart.

(2) Approval of alternatives to using 40 CFR 63.457(b)(5)(iii), 63.457(c)(3)(ii) through (iii), and 63.257(c)(5)(ii), and any major alternatives to test methods under 40 CFR 63.7(e)(2)(ii) and (f), as defined in 40 CFR 63.90, and as required in this Subpart.

(3) Approval of alternatives using 40 CFR 64.453(m) and any major alternatives to monitoring under 40 CFR 63.8(f), as defined in 40 CFR 63.90, and as required in this Subpart.

(4) Approval of major alternatives to recordkeeping and reporting under 40 CFR 63.10(f), as defined in 40 CFR 63.90, and as required in this Subpart.

[68 FR 37348, June 23, 2003]

40 CFR 63.459 - Alternative standards

(a) Flint River Mill. The owner or operator of the pulping system using the kraft process at the manufacturing facility, commonly called Weyerhaeuser Company Flint River Operations, at Old Stagecoach Road, Oglethorpe, Georgia, (hereafter the Site) shall comply with all provisions of this Subpart, except as specified in paragraphs (a)(1) through (a)(5) of this section.

(1) The owner or operator of the pulping system is not required to control total HAP emissions from equipment systems specified in paragraphs (a)(1)(i) and (a)(1)(ii) if the owner or operator complies with paragraphs (a)(2) through (a)(5) of this section.

(i) The brownstock diffusion washer vent and first stage brownstock diffusion washer filtrate tank vent in the pulp washing system specified in 40 CFR 63.443(a)(1)(iii).

(ii) The oxygen delignification system specified in 40 CFR 63.443(a)(1)(v).

(2) The owner or operator of the pulping system shall control total HAP emissions from equipment systems listed in paragraphs (a)(2)(i) through (a)(2)(ix) of this section as specified in 40 CFR 63.443(c) and (d) of this Subpart no later than April 16, 2002.

(i) The weak liquor storage tank;

(ii) The boilout tank;

(iii) The utility tank;

(iv) The fifty percent solids black liquor storage tank;
(v) The south sixty-seven percent solids black liquor storage tank;
(vi) The north sixty-seven percent solids black liquor storage tank;
(vii) The precipitator make down tanks numbers one, two and three;
(viii) The salt cake mix tank; and
(ix) The NaSH storage tank.

(3) The owner and operator of the pulping system shall operate the Isothermal Cooking system at the site while pulp is being produced in the continuous digester at any time after April 16, 2002.

(i) The owner or operator shall monitor the following parameters to demonstrate that isothermal cooking is in operation:

(A) Continuous digester dilution factor; and

(B) The difference between the continuous digester vapor zone temperature and the continuous digester extraction header temperature.

(ii) The isothermal cooking system shall be in operation when the continuous digester dilution factor and the temperature difference between the continuous digester vapor zone temperature and the continuous digester extraction header temperature are maintained as set forth in Table 2:

Table 2 to40 CFR 63 Subpart S - Isothermal Cooking System Operational Values

Parameter	Instrument number	Limit	Units
Digester Dilution Factor	K1DILFAC	> 0.0	None
Difference in Digester Vapor Zone Temperature and Digester	03TI0311	< 10	Degrees F.
Extraction Header Temperature	03TI0329		

(iii) The owner or operator shall certify annually the operational status of the isothermal cooking system.

(4) [Reserved]

(5) Definitions. All descriptions and references to equipment and emission unit ID numbers refer to equipment at the Site. All terms used in this paragraph shall have the meaning given them in 40 CFR 63 and this paragraph. For the purposes of this paragraph only the following additional definitions apply:

Boilout tank means the tank that provides tank storage capacity for recovery of black liquor spills and evaporator water washes for return to the evaporators (emission unit ID No. U606);

Brownstock diffusion washer means the equipment used to wash pulp from the surge chests to further reduce lignin carryover in the pulp;

Continuous digester means the digester system used to chemically and thermally remove the lignin binding the wood chips to produce individual pulp fibers (emission unit ID No. P300);

Fifty percent solids black liquor storage tank means the tank used to store intermediate black liquor prior to final evaporation in the 1A, 1B, and 1C Concentrators (emission unit ID No. U605);

First stage brownstock diffusion washer means the equipment that receives and stores filtrate from the first stage of washing for return to the pressure diffusion washer;

Isothermal cooking system means the 1995-1996 modernization of brownstock pulping process including conversion of the Kamyr continuous vapor phase digester to an extended delignification unit and changes in the knotting, screening, and oxygen stage systems:

NaSH storage tank means the tank used to store sodium hydrosulfite solution prior to use as make-up to the liquor system

North sixty-seven percent solids black liquor storage tank means one of two tanks used to store black liquor prior to burning in the Recovery Boiler for chemical recovery (emission unit ID No. U501);

Precipitator make down tank numbers one, two and three mean tanks used to mix collected particulate from electrostatic precipitator chamber number one with 67% black liquor for recycle to chemical recovery in the Recovery Boiler (emission unit ID Nos. U504, U505 and U506);

Salt cake mix tank means the tank used to mix collected particulate from economizer hoppers with black liquor for recycle to chemical recovery in the Recovery Boiler (emission unit ID No. U503);

South sixty-seven percent solids black liquor storage tank means one of two tanks used to store black liquor prior to burning in the Recovery Boiler for chemical recovery (emission unit ID No. U502);

Utility tank means the tank used to store fifty percent liquor and, during black liquor tank inspections and repairs, to serve as a backup liquor storage tank (emission unit ID No. U611);

Weak gas system means high volume, low concentration or HVLC system as defined in 40 CFR 63.441; and

Weak liquor storage tank means the tank that provide surge capacity for weak black liquor from digesting prior to feed to multiple effect evaporators (emission unit ID No. U610).

(b) Tomahawk Wisconsin Mil

(1) Applicability

(i) The provisions of this paragraph (b) apply to the owner or operator of the stand-alone semi-chemical pulp and paper mill located at N9090 County Road E in Tomahawk, Wisconsin, referred to as the Tomahawk Mill.

(ii) The owner or operator is not required to comply with the provisions of this paragraph (b) if the owner and operator chooses to comply with the otherwise applicable sections of this Subpart and provides the EPA with notice.

(iii) If the owner or operator chooses to comply with the provisions of this paragraph (b) the owner or operator shall comply with all applicable provisions of 40 CFR 63, including this Subpart, except the following:

(A) Section 63.443(b);

(B) Section 63.443(c); and

(C) Section 63.443(d).

(2) Collection and routing of HAP emissions

(i) The owner or operator shall collect the total HAP emissions from each LVHC system.

(ii) Each LVHC system shall be enclosed and the HAP emissions shall be vented into a closed-vent system. The enclosures and closed-vent system shall meet requirements specified in paragraph (b)(6) of this section.

(iii) The HAP emissions shall be routed as follows:

(A) The HAP emissions collected in the closed-vent system from the digester system shall be routed through the primary indirect contact condenser, secondary indirect contact condenser, and evaporator indirect contact condenser; and

(B) The HAP emissions collected in the closed-vent system from the evaporator system and foul condensate standpipe shall be routed through the evaporator indirect contact condenser.

(3) Collection and routing of pulping process condensates

(i) The owner or operator shall collect the pulping process condensates from the following equipment systems:

(A) Primary indirect contact condenser;

(B) Secondary indirect contact condenser; and

(C) Evaporator indirect contact condenser.

(ii) The collected pulping process condensates shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in paragraph (b)(7) of this section.

(iii) The collected pulping process condensates shall be routed in the closed collection system to the wastewater treatment plant anaerobic basins for biodegradation.

(iv) The pulping process condensates shall be discharged into the wastewater treatment plant anaerobic basins below the liquid surface of the wastewater treatment plant anaerobic basins.

(4) HAP destruction efficiency requirements of the wastewater treatment plant.

(i) The owner or operator shall achieve a destruction efficiency of at least one pound of HAPs per ton of ODP by biodegradation in the wastewater treatment plant.

(ii) The following calculation shall be performed to determine the HAP destruction efficiency by biodegradation in the wastewater treatment plant:

$$HAP_d = \frac{\left[\left(RME_{fr} \times RME_c\right) + \left(PPC_{fr} \times PPC_c\right) - \left(ABD_{fr} \times ABD_c\right)\right] \times 8.34}{ODP_r}$$

Where:

HAP_d = HAP destruction efficiency of wastewater treatment plant (pounds of HAPs per ton of ODP);
RME_{fr} = flow rate of raw mill effluent (millions of gallons per day);
RME_c = HAP concentration of raw mill effluent (milligrams per liter);
PPC_{fr} = flow rate of pulping process condensates (millions of gallons per day);
PPC_c = HAP concentration of pulping process condensates (milligrams per liter);
ABD_{fr} = flow rate of anaerobic basin discharge (millions of gallons per day);
ABD_c = HAP concentration of anaerobic basin discharge (milligrams per liter); and
ODP_r = rate of production of oven dried pulp (tons per day).

(5) Monitoring requirements and parameter ranges

(i) The owner or operator shall install, calibrate, operate, and maintain according to the manufacturer's specifications a continuous monitoring system (CMS, as defined in 40 CFR 63.2), using a continuous recorder, to monitor the following parameters:

(A) Evaporator indirect contact condenser vent temperature;
(B) Pulping process condensates flow rate;
(C) Wastewater treatment plant effluent flow rate; and
(D) Production rate of ODP.

(ii) The owner or operator shall additionally monitor, on a daily basis, in each of the four anaerobic basins, the ratio of volatile acid to alkalinity (VA/A ratio). The owner or operator shall use the test methods identified for determining acidity and alkalinity as specified in 40 CFR 136.3, Table 1B.

(iii) The temperature of the evaporator indirect contact condenser vent shall be maintained at or below 140° F on a continuous basis.

(iv) The VA/A ratio in each of the four anaerobic basins shall be maintained at or below 0.5 on a continuous basis.

(A) The owner or operator shall measure the methanol concentration of the outfall of any basin (using NCASI Method DI/MEOH 94.03) when the VA/A ratio of that basin exceeds the following:

(*1*) 0.38, or
(*2*) The highest VA/A ratio at which the outfall of any basin has previously measured non-detect for methanol (using NCASI Method DI/MEOH 94.03).

(B) If the outfall of that basin measures detect for methanol, the owner or operator shall verify compliance with the emission standard specified in paragraph (b)(4) of this section by conducting a performance test pursuant to the requirements specified in paragraph (b)(8) of this section.

(v) The owner or operator may seek to establish or reestablish the parameter ranges, and/or the parameters required to be monitored as provided in paragraphs (b)(5)(i) through (v) of this section, by following the provisions of 40 CFR 63.453(n)(1) through (4).

(6) Standards and monitoring requirements for each enclosure and closed-vent system

(i) The owner or operator shall comply with the design and operational requirements specified in paragraphs (b)(6)(ii) through (iv) of this section, and the monitoring requirements of paragraphs (b)(6)(v) through (x) of this section for each enclosure and closed-vent system used for collecting and routing of HAP emissions as specified in paragraph (b)(2) of this section.

(ii) Each enclosure shall be maintained at negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in 40 CFR 63.457(e). Each enclosure or hood opening closed during the initial performance test shall be maintained in the same closed and sealed position as during

the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs.

(iii) Each component of the closed-vent system that is operated at positive pressure shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in 40 CFR 63.457(d).

(iv) Each bypass line in the closed-vent system that could divert vent streams containing HAPs to the atmosphere without meeting the routing requirements specified in paragraph (b)(2) of this section shall comply with either of the following requirements:

(A) On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of the presence of gas stream flow in the bypass line at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or

(B) For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in the closed position with a car seal or seal placed on the valve or closure mechanism in such a way that the valve or closure mechanism cannot be opened without breaking the seal.

(v) For each enclosure opening, the owner or operator shall perform, at least once every 30 days, a visual inspection of the closure mechanism specified in paragraph (b)(6)(ii) of this section to ensure the opening is maintained in the closed position and sealed.

(vi) For each closed-vent system required by paragraph (b)(2) of this section, the owner or operator shall perform a visual inspection every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects.

(vii) For positive pressure closed-vent systems, or portions of closed-vent systems, the owner or operator shall demonstrate no detectable leaks as specified in paragraph (b)(6)(iii) of this section, measured initially and annually by the procedures in 40 CFR 63.457(d).

(viii) For each enclosure that is maintained at negative pressure, the owner or operator shall demonstrate initially and annually that it is maintained at negative pressure as specified in 40 CFR 63.457(e).

(ix) For each valve or closure mechanism as specified in paragraph (b)(6)(iv)(B) of this section, the owner or operator shall perform an inspection at least once every 30 days to ensure that the valve is maintained in the closed position and the emissions point gas stream is not diverted through the bypass line.

(x) If an inspection required by paragraph (b)(6) of this section identifies visible defects in ductwork, piping, enclosures, or connections to covers required by paragraph (b)(6) of this section, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if the enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as follows:

(A) A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.

(B) The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified.

(7) Standards and monitoring requirements for the pulping process condensates closed collection system

(i) The owner or operator shall comply with the design and operational requirements specified in paragraphs (b)(7)(ii) through (iii) of this section, and monitoring requirements of paragraph (b)(7)(iv) for the equipment systems in paragraph (b)(3) of this section used to route the pulping process condensates in a closed collection system.

(ii) Each closed collection system shall meet the individual drain system requirements specified in 40 CFR 63.960, 63.961, and 63.962, except that the closed vent systems shall be designed and operated in accordance with paragraph (b)(6) of this section, instead of in accordance with 40 CFR 63.693 as specified in 40 CFR 63.692(a)(3)(ii), (b)(3)(ii)(A), and (b)(3)(ii)(B)(5)(iii); and

(iii) If a condensate tank is used in the closed collection system, the tank shall meet the following requirements:

(A) The fixed roof and all openings (e.g., access hatches, sampling ports, gauge wells) shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements of paragraph (b)(6) of this section and routed in accordance with paragraph (b)(2) of this section; and

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the tank contains pulping process condensates or any HAPs removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

(iv) For each pulping process condensate closed collection system used to comply with paragraph (b)(3) of this section, the owner or operator shall perform a visual inspection every 30 days and shall comply with the inspection and monitoring requirements specified in 40 CFR 63.964 except for the closed-vent system and control device inspection and monitoring requirements specified in 40 CFR 63.964(a)(2).

(8) Quarterly performance testing

(i) The owner or operator shall, within 45 days after the beginning of each quarter, conduct a performance test.

(ii) The owner or operator shall use NCASI Method DI/HAPS-99.01 to collect a grab sample and determine the HAP concentration of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge for the quarterly performance test conducted during the first quarter each year.

(iii) For each of the remaining three quarters, the owner or operator may use NCASI Method DI/MEOH 94.03 as a surrogate to collect and determine the HAP concentration of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge.

(iv) The sample used to determine the HAP or Methanol concentration in the Raw Mill Effluent, Pulping Process Condensates, or Anaerobic Basin Discharge shall be a composite of four grab samples taken evenly spaced over an eight hour time period.

(v) The Raw Mill Effluent grab samples shall be taken from the raw mill effluent composite sampler.

(vi) The Pulping Process Condensates grab samples shall be taken from a line tap on the closed condensate collection system prior to discharge into the wastewater treatment plant.

(vii) The Anaerobic Basic Discharge grab samples shall be taken subsequent to the confluence of the four anaerobic basin discharges.

(viii) The flow rate of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge, and the production rate of ODP shall be averaged over eight hours.

(ix) The data collected as specified in paragraphs (b)(5) and (b)(8) of this section shall be used to determine the HAP destruction efficiency of the wastewater treatment plant as specified in paragraph (b)(4)(ii) of this section.

(x) The HAP destruction efficiency shall be at least as great as that specified by paragraph (b)(4)(i) of this section.

(9) Recordkeeping requirements

(i) The owner or operator shall comply with the recordkeeping requirements as specified in Table 1 of Subpart S of 40 CFR 63 as it pertains to 40 CFR 63.10.

(ii) The owner or operator shall comply with the recordkeeping requirements as specified in 40 CFR 63.454(b).

(iii) The owner or operator shall comply with the recordkeeping requirements as specified in 40 CFR 63.453(d).

(10) Reporting requirements

(i) Each owner or operator shall comply with the reporting requirements as specified in Table 1 of 40 CFR 63.10.

(ii) Each owner or operator shall comply with the reporting requirements as specified in 40 CFR 63.455(d).

(11) Violations

(i) Failure to comply with any applicable provision of 40 CFR 63 shall constitute a violation.

(ii) Periods of excess emissions shall not constitute a violation provided the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed one percent. All periods of excess emission (including periods of startup, shutdown, and malfunction) shall be reported, and shall include:

(A) Failure to monitor a parameter, or maintain a parameter within minimum or maximum (as appropriate) ranges as specified in paragraph (b)(5), (b)(6), or (b)(7) of this section; and

(B) Failure to meet the HAP destruction efficiency standard specified in paragraph (b)(4) of this section.

(iii) Notwithstanding paragraph (b)(11)(ii) of this section, any excess emissions that present an imminent threat to public health or the environment, or may cause serious harm to public health or the environment, shall constitute a violation.

[66 FR 34124, June 27, 2001, as amended at 66 FR 52538, Oct. 16, 2001; 69 FR 19740, Apr. 13, 2004]

Table 1 to Subpart S of 40 CFR 63 - General Provisions Applicability to Subpart S[a]

Reference	Applies to Subpart S	Comment
63.1(a)(1)-(3)	Yes	
63.1(a)(4)	Yes	Subpart S (this Table) specifies applicability of each paragraph in Subpart A to Subpart S.
63.1(a)(5)	No	Section reserved.
63.1(a)(6)-(8)	Yes	
63.1(a)(9)	No	Section reserved.
63.1(a)(10)	No	Subpart S and other cross-referenced Subparts specify calendar or operating day.
63.1(a)(11)-(14)	Yes	
63.1(b)(1)	No	Subpart S specifies its own applicability.
63.1(b)(2)-(3)	Yes	
63.1(c)(1)-(2)	Yes	
63.1(c)(3)	No	Section reserved.
63.1(c)(4)-(5)	Yes	
63.1(d)	No	Section reserved.
63.1(e)	Yes	
63.2	Yes	
63.3	Yes	
63.4(a)(1)	Yes	
63.4(a)(3)		
63.4(a)(4)	No	Section reserved.
63.4(a)(5)	Yes	
63.4(b)	Yes	
63.4(c)	Yes	
63.5(a)	Yes	
63.5(b)(1)	Yes	
63.5(b)(2)	No	Section reserved.
63.5(b)(3)	Yes	
63.5(b)(4)-(6)	Yes	
63.5(c)	No	Section reserved.
63.5(d)	Yes	
63.5(e)	Yes	
63.5(f)	Yes	

63.6(a)	Yes	
63.6(b)	No	Subpart S specifies compliance dates for sources subject to Subpart S.
63.6(c)	No	Subpart S specifies compliance dates for sources subject to Subpart S.
63.6(d)	No	Section reserved.
63.6(e)	Yes	
63.6(f)	Yes	
63.6(g)	Yes	
63.6(h)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.6(i)	Yes	
63.6(j)	Yes	
63.7	Yes	
63.8(a)(1)	Yes	
63.8(a)(2)	Yes	
63.8(a)(3)	No	Section reserved.
63.8(a)(4)	Yes	
63.8(b)(1)	Yes	
63.8(b)(2)	No	Subpart S specifies locations to conduct monitoring.
63.8(b)(3)	Yes	
63.8(c)(1)	Yes	
63.8(c)(2)	Yes	
63.8(c)(3)	Yes	
63.8(c)(4)	No	Subpart S allows site specific determination of monitoring frequency in 40 CFR 63.453(n)(4).
63.8(c)(5)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.8(c)(6)	Yes	
63.8(c)(7)	Yes	
63.8(c)(8)	Yes	
63.8(d)	Yes	
63.8(e)	Yes	
63.8(f)(1)-(5)	Yes	
63.8(f)(6)	No	Subpart S does not specify relative accuracy test for CEMs.
63.8(g)	Yes	
63.9(a)	Yes	
63.9(b)	Yes	Initial notifications must be submitted within one year after the source becomes subject to the relevant standard.
63.9(c)	Yes	

63.9(d)	No	Special compliance requirements are only applicable to kraft mills.
63.9(e)	Yes	
63.9(f)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.9(g)(1)	Yes	
63.9(g)(2)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.9(g)(3)	No	Subpart S does not specify relative accuracy tests, therefore no notification is required for an alternative.
63.9(h)	Yes	
63.9(i)	Yes	
63.9(j)	Yes	
63.10(a)	Yes	
63.10(b)	Yes	
63.10(c)	Yes	
63.10(d)(1)	Yes	
63.10(d)(2)	Yes	
63.10(d)(3)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(d)(4)	Yes	
63.10(d)(5)	Yes	
63.10(e)(1)	Yes	
63.10(e)(2)(i)	Yes	
63.10(e)(2)(ii)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(e)(3)	Yes	
63.10(e)(4)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(f)	Yes	
63.11-63.15	Yes	

[a]Wherever Subpart A specifies “postmark” dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent by the specified dates, but a postmark is not required.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17564, Apr. 12, 1999]

Table 1 to Subpart S of 40 CFR 63 - General Provisions Applicability to Subpart S[a]

Reference	Applies to Subpart S	Comment
63.1(a)(1)-(3)	Yes	
63.1(a)(4)	Yes	Subpart S (this Table) specifies applicability of each paragraph in Subpart A to Subpart S.
63.1(a)(5)	No	Section reserved.
63.1(a)(6)-(8)	Yes	
63.1(a)(9)	No	Section reserved.
63.1(a)(10)	No	Subpart S and other cross-referenced Subparts specify calendar or operating day.
63.1(a)(11)-(14)	Yes	
63.1(b)(1)	No	Subpart S specifies its own applicability.
63.1(b)(2)-(3)	Yes	
63.1(c)(1)-(2)	Yes	
63.1(c)(3)	No	Section reserved.
63.1(c)(4)-(5)	Yes	
63.1(d)	No	Section reserved.
63.1(e)	Yes	
63.2	Yes	
63.3	Yes	
63.4(a)(1)	Yes	
63.4(a)(3)		
63.4(a)(4)	No	Section reserved.
63.4(a)(5)	Yes	
63.4(b)	Yes	
63.4(c)	Yes	
63.5(a)	Yes	
63.5(b)(1)	Yes	
63.5(b)(2)	No	Section reserved.
63.5(b)(3)	Yes	
63.5(b)(4)-(6)	Yes	
63.5(c)	No	Section reserved.
63.5(d)	Yes	
63.5(e)	Yes	

63.5(f)	Yes	
63.6(a)	Yes	
63.6(b)	No	Subpart S specifies compliance dates for sources subject to Subpart S.
63.6(c)	No	Subpart S specifies compliance dates for sources subject to Subpart S.
63.6(d)	No	Section reserved.
63.6(e)	Yes	
63.6(f)	Yes	
63.6(g)	Yes	
63.6(h)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.6(i)	Yes	
63.6(j)	Yes	
63.7	Yes	
63.8(a)(1)	Yes	
63.8(a)(2)	Yes	
63.8(a)(3)	No	Section reserved.
63.8(a)(4)	Yes	
63.8(b)(1)	Yes	
63.8(b)(2)	No	Subpart S specifies locations to conduct monitoring.
63.8(b)(3)	Yes	
63.8(c)(1)	Yes	
63.8(c)(2)	Yes	
63.8(c)(3)	Yes	
63.8(c)(4)	No	Subpart S allows site specific determination of monitoring frequency in 40 CFR 63.453(n)(4).
63.8(c)(5)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.8(c)(6)	Yes	
63.8(c)(7)	Yes	
63.8(c)(8)	Yes	
63.8(d)	Yes	
63.8(e)	Yes	
63.8(f)(1)-(5)	Yes	
63.8(f)(6)	No	Subpart S does not specify relative accuracy test for CEMs.
63.8(g)	Yes	
63.9(a)	Yes	
63.9(b)	Yes	Initial notifications must be submitted within one year after the source becomes

		subject to the relevant standard.
63.9(c)	Yes	
63.9(d)	No	Special compliance requirements are only applicable to kraft mills.
63.9(e)	Yes	
63.9(f)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.9(g)(1)	Yes	
63.9(g)(2)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.9(g)(3)	No	Subpart S does not specify relative accuracy tests, therefore no notification is required for an alternative.
63.9(h)	Yes	
63.9(i)	Yes	
63.9(j)	Yes	
63.10(a)	Yes	
63.10(b)	Yes	
63.10(c)	Yes	
63.10(d)(1)	Yes	
63.10(d)(2)	Yes	
63.10(d)(3)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(d)(4)	Yes	
63.10(d)(5)	Yes	
63.10(e)(1)	Yes	
63.10(e)(2)(i)	Yes	
63.10(e)(2)(ii)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(e)(3)	Yes	
63.10(e)(4)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(f)	Yes	
63.11-63.15	Yes	

[a]Wherever Subpart A specifies “postmark” dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent by the specified dates, but a postmark is not required.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17564, Apr. 12, 1999]

Title 40: Protection of Environment
PART 63 - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Subpart MM - National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills
Source: 66 FR 3193, Jan. 12, 2001, unless otherwise noted.

40 CFR 63.860 - Applicability and designation of affected source
(a) The requirements of this Subpart apply to the owner or operator of each kraft, soda, sulfite, or stand-alone semichemical pulp mill that is a major source of hazardous air pollutants (HAP) emissions as defined in 40 CFR 63.2.
(b) Affected sources. The requirements of this Subpart apply to each new or existing affected source listed in paragraphs (b)(1) through (7) of this section:

(1) Each existing chemical recovery system (as defined in 40 CFR 63.861) located at a kraft or soda pulp mill.
(2) Each new nondirect contact evaporator (NDCE) recovery furnace and associated smelt dissolving tank(s) located at a kraft or soda pulp mill.
(3) Each new direct contact evaporator (DCE) recovery furnace system (as defined in 40 CFR 63.861) and associated smelt dissolving tank(s) located at a kraft or soda pulp mill.
(4) Each new lime kiln located at a kraft or soda pulp mill.
(5) Each new or existing sulfite combustion unit located at a sulfite pulp mill, except such existing units at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. AP-10).
(6) Each new or existing semichemical combustion unit located at a stand-alone semichemical pulp mill.
(7) The requirements of the alternative standard in 40 CFR 63.862(d) apply to the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14).

(c) The requirements of the General Provisions in Subpart A of 40 CFR 63 that apply to the owner or operator subject to the requirements of this Subpart are identified in Table 1 to this Subpart.
[66 FR 3193, Jan. 12, 2001, as amended at 68 FR 7713, Feb. 18, 2003]

40 CFR 63.861 - Definitions
All terms used in this Subpart are defined in the Clean Air Act, in Subpart A of 40 CFR 63, or in this section. For the purposes of this Subpart, if the same term is defined in Subpart A or any other Subpart of 40 CFR 63 and in this section, it must have the meaning given in this section.

Bag leak detection system means an instrument that is capable of monitoring PM loadings in the exhaust of a fabric filter in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other principle to monitor relative PM loadings.

Black liquor means spent cooking liquor that has been separated from the pulp produced by the kraft, soda, or semichemical pulping process.

Black liquor gasification means the thermochemical conversion of black liquor into a combustible gaseous product.

Black liquor oxidation (BLO) system means the vessels used to oxidize the black liquor, with air or oxygen, and the associated storage tank(s).

Black liquor solids (BLS) means the dry weight of the solids in the black liquor that enters the recovery furnace or semichemical combustion unit.

Black liquor solids firing rate means the rate at which black liquor solids are fed to the recovery furnace or the semichemical combustion unit.

Chemical recovery combustion source means any source in the chemical recovery area of a kraft, soda, sulfite or stand-alone semichemical pulp mill that is an NDCE recovery furnace, a DCE recovery furnace system, a smelt dissolving tank, a lime kiln, a sulfite combustion unit, or a semichemical combustion unit.

Chemical recovery system means all existing DCE and NDCE recovery furnaces, smelt dissolving tanks, and lime kilns at a kraft or soda pulp mill. Each existing recovery furnace, smelt dissolving tank, or lime kiln is considered a process unit within a chemical recovery system.

Direct contact evaporator (DCE) recovery furnace means a kraft or soda recovery furnace equipped with a direct contact evaporator that concentrates strong black liquor by direct contact between the hot recovery furnace exhaust gases and the strong black liquor.

Direct contact evaporator (DCE) recovery furnace system means a direct contact evaporator recovery furnace and any black liquor oxidation system, if present, at the pulp mill.

Dry electrostatic precipitator (ESP) system means an electrostatic precipitator with a dry bottom (*i.e.*, no black liquor, water, or other fluid is used in the ESP bottom) and a dry particulate matter return system (i.e., no black liquor, water, or other fluid is used to transport the collected PM to the mix tank).

Fabric filter means an air pollution control device used to capture PM by filtering a gas stream through filter media; also known as a baghouse.

Hazardous air pollutants (HAP) metals means the sum of all emissions of antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium as measured by EPA Method 29 (40 CFR 60 Appendix A) and with all nondetect data treated as one-half of the method detection limit.

Hog fuel dryer means the equipment that combusts fine particles of wood waste (hog fuel) in a fluidized bed and directs the heated exhaust stream to a rotary dryer containing wet hog fuel to be dried prior to combustion in the hog fuel boiler at Weyerhaeuser Paper Company's Cosmopolis, Washington facility. The hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility is Emission Unit no. HD-14.

Kraft pulp mill means any stationary source that produces pulp from wood by cooking (digesting) wood chips in a solution of sodium hydroxide and sodium sulfide. The recovery process used to regenerate cooking chemicals is also considered part of the kraft pulp mill.

Kraft recovery furnace means a recovery furnace that is used to burn black liquor produced by the kraft pulping process, as well as any recovery furnace that burns black liquor produced from both the kraft and semichemical pulping processes, and includes the direct contact evaporator, if applicable. Includes black liquor gasification.

Lime kiln means the combustion unit (e.g., rotary lime kiln or fluidized-bed calciner) used at a kraft or soda pulp mill to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide (CaO).

Lime production rate means the rate at which dry lime, measured as CaO, is produced in the lime kiln.

Method detection limit means the minimum concentration of an analyte that can be determined with 99 percent confidence that the true value is greater than zero.

Modification means, for the purposes of 40 CFR 63.862(a)(1)(ii)(E)(*1*), any physical change (excluding any routine part replacement or maintenance) or operational change (excluding any operational change that occurs during a start-up, shutdown, or malfunction) that is made to the air pollution control device that could result in an increase in PM emissions.

Nondetect data means, for the purposes of this Subpart, any value that is below the method detection limit.

Nondirect contact evaporator (NDCE) recovery furnace means a kraft or soda recovery furnace that burns black liquor that has been concentrated by indirect contact with steam.

Particulate matter (PM) means total particulate matter as measured by EPA Method 5, EPA Method 17 (40 CFR 63.865(b)(1)), or EPA Method 29 (40 CFR 60 Appendix A).

Process unit means an existing DCE or NDCE recovery furnace, smelt dissolving tank, or lime kiln in a chemical recovery system at a kraft or soda mill.

Recovery furnace means an enclosed combustion device where concentrated black liquor produced by the kraft or soda pulping process is burned to recover pulping chemicals and produce steam. Includes black liquor gasification.

Regenerative thermal oxidizer (RTO) means a thermal oxidizer that transfers heat from the exhaust gas stream to the inlet gas stream by passing the exhaust stream through a bed of ceramic stoneware or other heat-absorbing medium before releasing it to the atmosphere, then reversing the gas flow so the inlet gas stream passes through the heated bed, raising the temperature of the inlet stream close to or at its ignition temperature.

Semichemical combustion unit means any equipment used to combust or pyrolyze black liquor at stand-alone semichemical pulp mills for the purpose of chemical recovery. Includes black liquor gasification.

Similar process units means all existing DCE and NDCE recovery furnaces, smelt dissolving tanks, or lime kilns at a kraft or soda pulp mill.

Smelt dissolving tanks (SDT) means vessels used for dissolving the smelt collected from a kraft or soda recovery furnace.

Soda pulp mill means any stationary source that produces pulp from wood by cooking (digesting) wood chips in a sodium hydroxide solution. The recovery process used to regenerate cooking chemicals is also considered part of the soda pulp mill.

Soda recovery furnace means a recovery furnace used to burn black liquor produced by the soda pulping process and includes the direct contact evaporator, if applicable. Includes black liquor gasification.

Stand-alone semichemical pulp mill means any stationary source that produces pulp from wood by partially digesting wood chips in a chemical solution followed by mechanical defibrating (grinding), and has an onsite chemical recovery process that is not integrated with a kraft pulp mill.

Startup means, for the chemical recovery system employing black liquor gasification at Georgia-Pacific's facility in Big Island, Virginia only, the end of the gasification system commissioning phase. Commissioning is that period of time in which each part of the new gasification system will be checked and operated on its own to make sure it is installed and functions properly. Commissioning will conclude with the successful completion of the gasification technology supplier's performance warranty demonstration, which proves the technology and equipment are performing to warranted levels and the system is ready to be placed in active service. For all other affected sources under this Subpart, startup has the meaning given in 40 CFR 63.2.

Sulfite combustion unit means a combustion device, such as a recovery furnace or fluidized-bed reactor, where spent liquor from the sulfite pulping process (i.e., red liquor) is burned to recover pulping chemicals.

Sulfite pulp mill means any stationary source that produces pulp from wood by cooking (digesting) wood chips in a solution of sulfurous acid and bisulfite ions. The recovery process used to regenerate cooking chemicals is also considered part of the sulfite pulp mill.

Total hydrocarbons (THC) means the sum of organic compounds measured as carbon using EPA Method 25A (40 CFR 60 Appendix A).

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001; 68 FR 7713, Feb. 18, 2003]

<u>40 CFR 63.862 - Standards</u>

(a) Standards for HAP metals: existing sources

(1) Each owner or operator of an existing kraft or soda pulp mill must comply with the requirements of either paragraph (a)(1)(i) or (ii) of this section.

(i) Each owner or operator of a kraft or soda pulp mill must comply with the PM emissions limits in paragraphs (a)(1)(i)(A) through (C) of this section.

(A) The owner or operator of each existing kraft or soda recovery furnace must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.10 gram per dry standard cubic meter (g/dscm) (0.044 grain per dry standard cubic foot (gr/dscf)) corrected to 8 percent oxygen.

(B) The owner or operator of each existing kraft or soda smelt dissolving tank must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.10 kilogram per megagram (kg/Mg) (0.20 pound per ton (lb/ton)) of black liquor solids fired.

(C) The owner or operator of each existing kraft or soda lime kiln must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.15 g/dscm (0.064 gr/dscf) corrected to 10 percent oxygen.

(ii) As an alternative to meeting the requirements of 40 CFR 63.862(a)(1)(i), each owner or operator of a kraft or soda pulp mill may establish PM emissions limits for each existing kraft or soda recovery furnace, smelt dissolving tank, and lime kiln that operates 6,300 hours per year or more by:

(A) Establishing an overall PM emission limit for each existing process unit in the chemical recovery system at the kraft or soda pulp mill using the methods in 40 CFR 63.865(a)(1) and (2).

(B) The emissions limits for each kraft recovery furnace, smelt dissolving tank, and lime kiln that are used to establish the overall PM limit in paragraph (a)(1)(ii)(A) of this section must not be less stringent than the emissions limitations required by 40 CFR 60.282 for any kraft recovery furnace, smelt dissolving tank, or lime kiln that is subject to the requirements of 40 CFR 60.282.

(C) Each owner or operator of an existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln must ensure that the PM emissions discharged to the atmosphere from each of these sources are less than or equal to the applicable PM emissions limits, established using the

methods in 40 CFR 63.865(a)(1), that are used to establish the overall PM emissions limits in paragraph (a)(1)(ii)(A) of this section.

(D) Each owner or operator of an existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln must reestablish the emissions limits determined in paragraph (a)(1)(ii)(A) of this section if either of the actions in paragraphs (a)(1)(ii)(D)(*1*) and (*2*) of this section are taken:

(*1*) The air pollution control system for any existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln for which an emission limit was established in paragraph (a)(1)(ii)(A) of this section is modified (as defined in 40 CFR 63.861) or replaced; or

(*2*) Any kraft or soda recovery furnace, smelt dissolving tank, or lime kiln for which an emission limit was established in paragraph (a)(1)(ii)(A) of this section is shut down for more than 60 consecutive days.

(iii) Each owner or operator of an existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln that operates less than 6,300 hours per year must comply with the applicable PM emissions limits for that process unit provided in paragraph (a)(1)(i) of this section.

(2) Except as specified in paragraph (d) of this section, the owner or operator of each existing sulfite combustion unit must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.092 g/dscm (0.040 gr/dscf) corrected to 8 percent oxygen.

(b) Standards for HAP metals: new sources

(1) The owner or operator of any new kraft or soda recovery furnace must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.034 g/dscm (0.015 gr/dscf) corrected to 8 percent oxygen.

(2) The owner or operator of any new kraft or soda smelt dissolving tank must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.06 kg/Mg (0.12 lb/ton) of black liquor solids fired.

(3) The owner or operator of any new kraft or soda lime kiln must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.023 g/dscm (0.010 gr/dscf) corrected to 10 percent oxygen.

(4) The owner or operator of any new sulfite combustion unit must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.046 g/dscm (O.020 gr/dscf) corrected to 8 percent oxygen.

(c) Standards for gaseous organic HAP

(1) The owner or operator of any new recovery furnace at a kraft or soda pulp mill must ensure that the concentration or gaseous organic HAP, as meauared by methanol, discharged to the atmosphere is no greater than 0.012 kg/Mg (0.025 lb/ton) of black liquor solids fired.

(2) The owner or operator of each existing or new semichemical combustion unit must ensure that:

(i) The concentration of gaseous organic HAP, as measured by total hydrocarbons reported as carbon, discharged to the atmosphere is less than or equal to 1.49 kg/Mg (2.97 lb/ton) of black liquor solids fired; or

(ii) The gaseous organic HAP emissions, as measured by total hydrocarbons reported as carbon, are reduced by at least 90 percent prior to discharge of the gases to the atmosphere.

(d) Alternative standard. As an alternative to meeting the requirements of paragraph (a)(2) of this section, the owner or operator of the existing hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14) must ensure that the mass of PM in the exhaust gases discharged to the atmosphere from the hog fuel dryer is less than or equal to 4.535 kilograms per hour (kg/hr) (10.0 pounds per hour (lb/hr)).

[66 FR 3193, Jan. 12, 2001, as amended at 68 FR 7713, Feb. 18, 2003; 68 FR 67954, Dec. 5, 2003]

40 CFR 63.863 - Compliance dates

(a) The owner or operator of an existing affected source or process unit must comply with the requirements in this Subpart no later than March 13, 2004.

(b) The owner or operator of a new affected source that has an initial startup date after March 13, 2001 must comply with the requirements in this Subpart immediately upon startup of the affected source, except as specified in 40 CFR 63.6(b).

(c) The two existing semichemical combustion units at Georgia-Pacific Corporation's Big Island, VA facility must comply with the requirements of this Subpart no later than March 13, 2004, except as provided in paragraphs (c)(1) and (c)(2) of this section.

(1) If Georgia-Pacific Corporation constructs a new black liquor gasification system at Big Island, VA, determines that its attempt to start up the new system has been a failure and, therefore, must construct another type of chemical recovery unit to replace the two existing semichemical combustion units at Big Island, then the two existing semichemical combustion units must comply with the requirements of this Subpart by the earliest of the following dates: three years after Georgia-Pacific declares the gasification system a failure, upon startup of the new replacement unit(s), or March 1, 2008.

(2) After March 13, 2004 and if Georgia-Pacific Corporation constructs and successfully starts up a new black liquor gasification system, the provisions of this Subpart will not apply to the two existing semichemical combustion units at Georgia-Pacific's facility in Big Island, VA for up to 1500 hours, while Georgia-Pacific conducts trials of the new gasification system on black liquor from a Kraft pulp mill.

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001; 66 FR 37593, July 19, 2001; 68 FR 46108, Aug. 5, 2003]

<u>40 CFR 63.864 - Monitoring requirements</u>

(a)-(c) [Reserved]

(d) Continuous opacity monitoring system (COMS). The owner or operator of each affected kraft or soda recovery furnace or lime kiln equipped with an ESP must install, calibrate, maintain, and operate a COMS according to the provisions in 40 CFR 63.6(h) and 63.8 and paragraphs (d)(1) through (4) of this section.

(1)-(2) [Reserved]

(3) As specified in 40 CFR 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in 40 CFR 63.8(g)(2).

(e) Continuous parameter monitoring system (CPMS). For each CPMS required in this section, the owner or operator of each affected source or process unit must meet the requirements in paragraphs (e)(1) through (14) of this section.

(1)-(9) [Reserved]

(10) The owner or operator of each affected kraft or soda recovery furnace, kraft or soda lime kiln, sulfite combustion unit, or kraft or soda smelt dissolving tank equipped with a wet scrubber must install, calibrate, maintain, and operate a CPMS that can be used to determine and record the pressure drop across the scrubber and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in 40 CFR 63.8(c), as well as the procedures in paragraphs (e)(10)(i) and (ii) of this section:

(i) The monitoring device used for the continuous measurement of the pressure drop of the gas stream across the scrubber must be certified by the manufacturer to be accurate to within a gage pressure of ± 500 pascals (± 2 inches of water gage pressure); and

(ii) The monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ± 5 percent of the design scrubbing liquid flow rate.

(11) The owner or operator of each affected semichemical combustion unit equipped with an RTO must install, calibrate, maintain, and operate a CPMS that can be used to determine and record the operating temperature of the RTO at least once every successive 15-minute period using the procedures in 40 CFR 63.8(c). The monitor must compute and record the operating temperature at the point of incineration of effluent gases that are emitted using a temperature monitor accurate to within ± 1 percent of the temperature being measured.

(12) The owner or operator of the affected hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14) must meet the requirements in paragraphs (e)(12)(i) through (xi) of this section for each bag leak detection system.

(i) The owner or operator must install, calibrate, maintain, and operate each triboelectric bag leak detection system according to the “Fabric Filter Bag Leak Detection Guidance,” (EPA-454/R-98-015, September 1997). This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality Planning and Standards; Emissions, Monitoring and Analysis Division; Emission Measurement Center, MD-D205-02, Research Triangle Park, NC 27711. This document is also

available on the Technology Transfer Network under Emission Measurement Center Continuous Emission Monitoring. The owner or operator must install, calibrate, maintain, and operate other types of bag leak detection systems in a manner consistent with the manufacturer's written specifications and recommendations.

(ii) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(iii) The bag leak detection system sensor must provide an output of relative PM loadings.

(iv) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(v) The bag leak detection system must be equipped with an audible alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(vi) For positive pressure fabric filter systems, a bag leak detector must be installed in each baghouse compartment or cell.

(vii) For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.

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

(ix) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time according to section 5.0 of the “Fabric Filter Bag Leak Detection Guidance.”

(x) Following initial adjustment of the system, the sensitivity or range, averaging period, alarm set points, or alarm delay time may not be adjusted except as detailed in the site-specific monitoring plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. Record each adjustment.

(xi) The owner or operator must record the results of each inspection, calibration, and validation check.

(13) The owner or operator of each affected source or process unit that uses an ESP, wet scrubber, RTO, or fabric filter may monitor alternative control device operating parameters subject to prior written approval by the Administrator.

(14) The owner or operator of each affected source or process unit that uses an air pollution control system other than an ESP, wet scrubber, RTO, or fabric filter must provide to the Administrator an alternative monitoring request that includes the site-specific monitoring plan described in paragraph (a) of this section, a description of the control device, test results verifying the performance of the control device, the appropriate operating parameters that will be monitored, and the frequency of measuring and recording to establish continuous compliance with the standards. The alternative monitoring request is subject to the Administrator's approval. The owner or operator of the affected source or process unit must install, calibrate, operate, and maintain the monitor(s) in accordance with the alternative monitoring request approved by the Administrator. The owner or operator must include in the information submitted to the Administrator proposed performance specifications and quality assurance procedures for the monitors. The Administrator may request further information and will approve acceptable test methods and procedures. The owner or operator must monitor the parameters as approved by the Administrator using the methods and procedures in the alternative monitoring request.

(f) [Reserved]

(g) The owner or operator of each affected source or process unit complying with the gaseous organic HAP standard of 40 CFR 63.862(c)(1) through the use of an NDCE recovery furnace equipped with a dry ESP system is not required to conduct any continuous monitoring to demonstrate compliance with the gaseous organic HAP standard.

(h)-(i) [Reserved]

(j) Determination of operating ranges

(1) During the initial performance test required in 40 CFR 63.865, the owner or operator of any affected source or process unit must establish operating ranges for the monitoring parameters in paragraphs (e)(10) through (14) of this section, as appropriate; or

(2) The owner or operator may base operating ranges on values recorded during previous performance tests or conduct additional performance tests for the specific purpose of establishing operating ranges, provided that test data used to establish the operating ranges are or have been obtained using the test methods required in this Subpart. The owner or operator of the affected source or process unit must certify that all control techniques and processes have not been modified subsequent to the testing upon which the data used to establish the operating parameter ranges were obtained.

(3) The owner or operator of an affected source or process unit may establish expanded or replacement operating ranges for the monitoring parameter values listed in paragraphs (e)(10) through (14) of this section and established in paragraph (j)(1) or (2) of this section during subsequent performance tests using the test methods in 40 CFR 63.865.

(4) The owner or operator of the affected source or process unit must continuously monitor each parameter and determine the arithmetic average value of each parameter during each performance test. Multiple performance tests may be conducted to establish a range of parameter values.

(5)-(6) [Reserved]

(k) On-going compliance provisions

(1) Following the compliance date, owners or operators of all affected sources or process units are required to implement corrective action if the monitoring exceedances in paragraphs (k)(1)(i) through (vi) of this section occur:

(i) For a new or existing kraft or soda recovery furnace or lime kiln equipped with an ESP, when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity;

(ii) For a new or existing kraft or soda recovery furnace, kraft or soda smelt dissolving tank, kraft or soda lime kiln, or sulfite combustion unit equipped with a wet scrubber, when any 3-hour average parameter value is outside the range of values established in paragraph (j) of this section.

(iii) For a new or existing semichemical combustion unit equipped with an RTO, when any 1-hour average temperature falls below the temperature established in paragraph (j) of this section;

(iv) For the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), when the bag leak detection system alarm sounds.

(v) For an affected source or process unit equipped with an ESP, wet scrubber, RTO, or fabric filter and monitoring alternative operating parameters established in paragraph (e)(13) of this section, when any 3-hour average value is outside the range of parameter values established in paragraph (j) of this section; and

(vi) For an affected source or process unit equipped with an alternative air pollution control system and monitoring operating parameters approved by the Administrator as established in paragraph (e)(14) of this section, when any 3-hour average value is outside the range of parameter values established in paragraph (j) of this section.

(2) Following the compliance date, owners or operators of all affected sources or process units are in violation of the standards of 40 CFR 63.862 if the monitoring exceedances in paragraphs (k)(2)(i) through (vii) of this section occur:

(i) For an existing kraft or soda recovery furnace equipped with an ESP, when opacity is greater than 35 percent for 6 percent or more of the operating time within any quarterly period;

(ii) For a new kraft or soda recovery furnace or a new or existing lime kiln equipped with an ESP, when opacity is greater than 20 percent for 6 percent or more of the operating time within any quarterly period;

(iii) For a new or existing kraft or soda recovery furnace, kraft or soda smelt dissolving tank, kraft or soda lime kiln, or sulfite combustion unit equipped with a wet scrubber, when six or more 3-hour average parameter values within any 6-month reporting period are outside the range of values established in paragraph (j) of this section;

(iv) For a new or existing semichemical combustion unit equipped with an RTO, when any 3-hour average temperature falls below the temperature established in paragraph (j) of this section;

(v) For the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), when corrective action is not initiated within 1 hour of a bag leak detection system alarm and the alarm is engaged for more than 5 percent of the total operating time in a 6-month block reporting period. In calculating the operating time fraction, if inspection of the fabric filter demonstrates

that no corrective action is required, no alarm time is counted; if corrective action is required, each alarm is counted as a minimum of 1 hour; if corrective action is not initiated within 1 hour, the alarm time is counted as the actual amount of time taken to initiate corrective action.

(vi) For an affected source or process unit equipped with an ESP, wet scrubber, RTO, or fabric filter and monitoring alternative operating parameters established in paragraph (e)(13) of this section, when six or more 3-hour average values within any 6-month reporting period are outside the range of parameter values established in paragraph (j) of this section; and

(vii) For an affected source or process unit equipped with an alternative air pollution control system and monitoring operating parameters approved by the Administrator as established in paragraph (e)(14) of this section, when six or more 3-hour average values within any 6-month reporting period are outside the range of parameter values established in paragraph (j) of this section.

(3) For purposes of determining the number of nonopacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period.

[68 FR 7713, Feb. 18, 2003, as amended at 68 FR 42605, July 18, 2003; 68 FR 67955, Dec. 5, 2003; 71 FR 20458, Apr. 20, 2006]

<u>40 CFR 63.865 - Performance test requirements and test methods</u>

The owner or operator of each affected source or process unit subject to the requirements of this Subpart is required to conduct an initial performance test using the test methods and procedures listed in 40 CFR 63.7 and paragraph (b) of this section, except as provided in paragraph (c)(1) of this section.

(a) The owner or operator of a process unit seeking to comply with a PM emission limit under 40 CFR 63.862(a)(1)(ii)(A) must use the procedures in paragraphs (a)(1) and (2) of this section:

(1) Determine the overall PM emission limit for the chemical recovery system at the mill using Equation 1 of this section as follows:

$$EL_{PM} = \frac{\left[\left(C_{ref,RF}\right)\left(Q_{RFtot}\right) + \left(C_{ref,LK}\right)\left(Q_{LKtot}\right)\right](F1)}{\left(BLS_{tot}\right)} + ER1_{ref,SDT} \qquad \text{(Eq. 1)}$$

Where:

EL_{PM} = overall PM emission limit for all existing process units in the chemical recovery system at the kraft or soda pulp mill, kg/Mg (lb/ton) of black liquor solids fired.

$C_{ref,\ RF}$ = reference concentration of 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen for existing kraft or soda recovery furnaces.

Q_{RFtot} = sum of the average volumetric gas flow rates measured during the performance test and corrected to 8 percent oxygen for all existing recovery furnaces in the chemical recovery system at the kraft or soda pulp mill, dry standard cubic meters per minute (dscm/min) (dry standard cubic feet per minute (dscf/min)).

$C_{ref,LK}$ = reference concentration of 0.15 g/dscm (0.064 gr/dscf) corrected to 10 percent oxygen for existing kraft or soda lime kilns.

Q_{LKtot} = sum of the average volumetric gas flow rates measured during the performance test and corrected to 10 percent oxygen for all existing lime kilns in the chemical recovery system at the kraft or soda pulp mill, dscm/min (dscf/min).

F1 = conversion factor, 1.44 minutes·kilogram/day·gram (min·kg/d·g) (0.206 minutes·pound/day·grain (min·b/d·gr)).

BLS_{tot} = sum of the average black liquor solids firing rates of all existing recovery furnaces in the chemical recovery system at the kraft or soda pulp mill measured during the performance test, megagrams per day (Mg/d) (tons per day (ton/d)) of black liquor solids fired.

$ER1_{ref,\ SDT}$ = reference emission rate of 0.10 kg/Mg (0.20 lb/ton) of black liquor solids fired for existing kraft or soda smelt dissolving tanks.

(2) Establish an emission limit for each kraft or soda recovery furnace, smelt dissolving tank, and lime kiln; and, using these emissions limits, determine the overall PM emission rate for the chemical recovery system at the mill

using the procedures in paragraphs (a)(2)(i) through (v) of this section, such that the overall PM emission rate calculated in paragraph (a)(2)(v) of this section is less than or equal to the overall PM emission limit determined in paragraph (a)(1) of this section, as appropriate.

(i) The PM emission rate from each affected recovery furnace must be determined using Equation 2 of this section as follows:

$$ER_{RF} = (F1)(C_{EL,\,RF})(Q_{RF})/(BLS) \qquad (Eq.\ 2)$$

Where:

ER_{RF} = emission rate from each recovery furnace, kg/Mg (lb/ton) of black liquor solids.
F1 = conversion factor, 1.44 min·kg/d·g (0.206 min·/d·gr).
$C_{EL,\,RF}$ = PM emission limit proposed by owner or operator for the recovery furnace, g/dscm (gr/dscf) corrected to 8 percent oxygen.
Q_{RF} = average volumetric gas flow rate from the recovery furnace measured during the performance test and corrected to 8 percent oxygen, dscm/min (dscf/min).
BLS = average black liquor solids firing rate of the recovery furnace measured during the performance test, Mg/d (ton/d) of black liquor solids.

(ii) The PM emission rate from each affected smelt dissolving tank must be determined using Equation 3 of this section as follows:

$$ER_{SDT} = (F1)(C_{EL,\,SDT})(Q_{SDT})/(BLS) \qquad (Eq.\ 3)$$

Where:

ER_{SDT} = emission rate from each SDT, kg/Mg (lb/ton) of black liquor solids fired.
F1 = conversion factor, 1.44 min·kg/d•g (0.206 min·lb/d·gr).
$C_{EL,\,SDT}$ = PM emission limit proposed by owner or operator for the smelt dissolving tank, g/dscm (gr/dscf).
Q_{SDT} = average volumetric gas flow rate from the smelt dissolving tank measured during the performance test, dscm/min (dscf/min).
BLS = average black liquor solids firing rate of the associated recovery furnace measured during the performance test, Mg/d (ton/d) of black liquor solids fired. If more than one SDT is used to dissolve the smelt from a given recovery furnace, then the black liquor solids firing rate of the furnace must be proportioned according to the size of the SDT.

(iii) The PM emission rate from each affected lime kiln must be determined using Equation 4 of this section as follows:

$$ER_{LK} = (F1)(C_{EL,\,LK})(Q_{LK})(CaO_{tot}/BLS_{tot})/(CaO_{LK}) \qquad (Eq.\ 4)$$

Where:

ER_{LK} = emission rate from each lime kiln, kg/Mg (lb/ton) of black liquor solids.
F1 = conversion factor, 1.44 min·kg/d·g (0.206 min·lb/d·gr).
$C_{EL,LK}$ = PM emission limit proposed by owner or operator for the lime kiln, g/dscm (gr/dscf) corrected to 10 percent oxygen.
Q_{LK} = average volumetric gas flow rate from the lime kiln measured during the performance test and corrected to 10 percent oxygen, dscm/min (dscf/min).
CaO_{LK} = lime production rate of the lime kiln, measured as CaO during the performance test, Mg/d (ton/d) of CaO.

CaO_{tot} = sum of the average lime production rates for all existing lime kilns in the chemical recovery system at the mill measured as CaO during the performance test, Mg/d (ton/d).
BLS_{tot} = sum of the average black liquor solids firing rates of all recovery furnaces in the chemical recovery system at the mill measured during the performance test, Mg/d (ton/d) of black liquor solids.

(iv) If more than one similar process unit is operated in the chemical recovery system at the kraft or soda pulp mill, Equation 5 of this section must be used to calculate the overall PM emission rate from all similar process units in the chemical recovery system at the mill and must be used in determining the overall PM emission rate for the chemical recovery system at the mill:

$$ER_{PUtot} = ER_{PU1}\left(PR_{PU1}/PR_{tot}\right) + \ldots + \left(ER_{PUi}\right)\left(PR_{PUi}/PR_{tot}\right) \qquad (Eq.\ 5)$$

Where:

ER_{PUtot} = overall PM emission rate from all similar process units, kg/Mg (lb/ton) of black liquor solids fired.
ER_{PU1} = PM emission rate from process unit No. 1, kg/Mg (lb/ton) of black liquor solids fired, calculated using Equation 2, 3, or 4 in paragraphs (a)(2)(i) through (iii) of this section.
PR_{PU1} = black liquor solids firing rate in Mg/d (ton/d) for process unit No. 1, if process unit is a recovery furnace or SDT. The CaO production rate in Mg/d (ton/d) for process unit No. 1, if process unit is a lime kiln.
PR_{tot} = total black liquor solids firing rate in Mg/d (ton/d) for all recovery furnaces in the chemical recovery system at the kraft or soda pulp mill if the similar process units are recovery furnaces or SDT, or the total CaO production rate in Mg/d (ton/d) for all lime kilns in the chemical recovery system at the mill if the similar process units are lime kilns.
ER_{PUi} = PM emission rate from process unit No. i, kg/Mg (lb/ton) of black liquor solids fired.
PR_{PUi} = black liquor solids firing rate in Mg/d (ton/d) for process unit No. i, if process unit is a recovery furnace or SDT. The CaO production rate in Mg/d (ton/d) for process unit No. i, if process unit is a lime kiln.
i = number of similar process units located in the chemical recovery system at the kraft or soda pulp mill.

(v) The overall PM emission rate for the chemical recovery system at the mill must be determined using Equation 6 of this section as follows:

$$ER_{tot} = ER_{RFtot} + ER_{SDTtot} + ER_{LKtot} \qquad (Eq.\ 6)$$

Where:

ER_{tot} = overall PM emission rate for the chemical recovery system at the mill, kg/Mg (lb/ton) of black liquor solids fired.
ER_{RFtot} = PM emission rate from all kraft or soda recovery furnaces, calculated using Equation 2 or 5 in paragraphs (a)(2)(i) and (iv) of this section, where applicable, kg/Mg (lb/ton) of black liquor solids fired.
ER_{SDTtot} = PM emission rate from all smelt dissolving tanks, calculated using Equation 3 or 5 in paragraphs (a)(2)(ii) and (iv) of this section, where applicable, kg/Mg (lb/ton) of black liquor solids fired.
ER_{LKtot} = PM emission rate from all lime kilns, calculated using Equation 4 or 5 in paragraphs (a)(2)(iii) and (iv) of this section, where applicable, kg/Mg (lb/ton) of black liquor solids fired.

(vi) After the Administrator has approved the PM emissions limits for each kraft or soda recovery furnace, smelt dissolving tank, and lime kiln, the owner or operator complying with an overall PM emission limit established in 40 CFR 63.862(a)(1)(ii) must demonstrate compliance with the HAP metals standard by demonstrating compliance with the approved PM emissions limits for each affected kraft or soda recovery furnace, smelt dissolving tank, and lime kiln, using the test methods and procedures in paragraph (b) of this section.

(b) The owner or operator seeking to determine compliance with 40 CFR 63.862(a), (b), or (d) must use the procedures in paragraphs (b)(1) through (6) of this section.

(1) For purposes of determining the concentration or mass of PM emitted from each kraft or soda recovery furnace, sulfite combustion unit, smelt dissolving tank, lime kiln, or the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), Method 5 or 29 in Appendix A of 40 CFR 60 must be used, except that Method 17 in Appendix A of 40 CFR 60 may be used in lieu of Method 5 or Method 29 if a constant value of 0.009 g/dscm (0.004 gr/dscf) is added to the results of Method 17, and the stack temperature is no greater than 205 °C (400 °F). For Methods 5, 29, and 17, the sampling time and sample volume for each run must be at least 60 minutes and 0.90 dscm (31.8 dscf), and water must be used as the cleanup solvent instead of acetone in the sample recovery procedure.

(2) For sources complying with 40 CFR 63.862(a) or (b), the PM concentration must be corrected to the appropriate oxygen concentration using Equation 7 of this section as follows:

$$C_{corr} = C_{meas} \times \frac{(21-X)}{(21-Y)} \qquad \text{(Eq. 7)}$$

Where:

C_{corr} = The measured concentration corrected for oxygen, g/dscm (gr/dscf);
C_{meas} = The measured concentration uncorrected for oxygen, g/dscm (gr/dscf);
X = The corrected volumetric oxygen concentration (8 percent for kraft or soda recovery furnaces and sulfite combustion units and 10 percent for kraft or soda lime kilns); and
Y = The measured average volumetric oxygen concentration.

(3) Method 3A or 3B in Appendix A of 40 CFR 60 must be used to determine the oxygen concentration. The voluntary consensus standard ANSI/ASME PTC 19.10-1981-Part 10 (incorporated by reference-see 40 CFR 63.14) may be used as an alternative to using Method 3B. The gas sample must be taken at the same time and at the same traverse points as the particulate sample.

(4) For purposes of complying with of 40 CFR 63.862(a)(1)(ii)(A), the volumetric gas flow rate must be corrected to the appropriate oxygen concentration using Equation 8 of this section as follows:

$$Q_{corr}=Qmeas\times(21-Y)/(21-X) \qquad \text{(Eq. 8)}$$

Where:

Q_{corr} = the measured volumetric gas flow rate corrected for oxygen, dscm/min (dscf/min).
Q_{meas} = the measured volumetric gas flow rate uncorrected for oxygen, dscm/min (dscf/min).
Y = the measured average volumetric oxygen concentration.
X = the corrected volumetric oxygen concentration (8 percent for kraft or soda recovery furnaces and 10 percent for kraft or soda lime kilns).

(5)

(i) For purposes of selecting sampling port location and number of traverse points, Method 1 or 1A in Appendix A of 40 CFR 60 must be used;

(ii) For purposes of determining stack gas velocity and volumetric flow rate, Method 2, 2A, 2C, 2D, 2F, or 2G in Appendix A of 40 CFR 60 must be used;

(iii) For purposes of conducting gas analysis, Method 3, 3A, or 3B in Appendix A of 40 CFR 60 must be used. The voluntary consensus standard ANSI/ASME PTC 19.10-1981-Part 10 (incorporated by reference-see 40 CFR 63.14) may be used as an alternative to using Method 3B; and

(iv) For purposes of determining moisture content of stack gas, Method 4 in Appendix A of 40 CFR 60 must be used.

(6) Process data measured during the performance test must be used to determine the black liquor solids firing rate on a dry basis and the CaO production rate.

(c) The owner or operator of each affected source or process unit complying with the gaseous organic HAP standard in 40 CFR 63.862(c)(1) must demonstrate compliance according to the provisions in paragraphs (c)(1) and (2) of this section.

(1) The owner or operator complying through the use of an NDCE recovery furnace equipped with a dry ESP system is not required to conduct any performance testing to demonstrate compliance with the gaseous organic HAP standard.

(2) The owner or operator complying without using an NDCE recovery furnace equipped with a dry ESP system must use Method 308 in Appendix A of 40 CFR 63, as well as the methods listed in paragraphs (b)(5)(i) through (iv) of this section. The sampling time and sample volume for each Method 308 run must be at least 60 minutes and 0.014 dscm (0.50 dscf), respectively.

(i) The emission rate from any new NDCE recovery furnace must be determined using Equation 9 of this section as follows:

$$ER_{NDCE} = \frac{(MR_{meas})}{BLS} \qquad \text{(Eq. 9)}$$

Where:

ER_{NDCE} = Methanol emission rate from the NDCE recovery furnace, kg/Mg (lb/ton) of black liquor solids fired;
MR_{meas} = Measured methanol mass emission rate from the NDCE recovery furnace, kg/hr (lb/hr); and
BLS = Average black liquor solids firing rate of the NDCE recovery furnace, megagrams per hour (Mg/hr) (tons per hour (ton/hr)) determined using process data measured during the performance test.

(ii) The emission rate from any new DCE recovery furnace system must be determined using Equation 10 of this section as follows:

$$ER_{DCE} = \left[\frac{(MR_{meas,RF})}{BLS_{RF}}\right] + \left[\frac{MR_{meas,BLO}}{BLS_{BLO}}\right] \qquad \text{(Eq. 10)}$$

Where:

ER_{DCE} = Methanol emission rate from each DCE recovery furnace system, kg/Mg (lb/ton) of black liquor solids fired;
$MR_{meas,RF}$ = Average measured methanol mass emission rate from each DCE recovery furnace, kg/hr (lb/hr);
$MR_{meas,BLO}$ = Average measured methanol mass emission rate from the black liquor oxidation system, kg/hr (lb/hr);
BLS_{RF} = Average black liquor solids firing rate for each DCE recovery furnace, Mg/hr (ton/hr) determined using process data measured during the performance test; and
BLS_{BLO} = The average mass rate of black liquor solids treated in the black liquor oxidation system, Mg/hr (ton/hr) determined using process data measured during the performance test.

(d) The owner or operator seeking to determine compliance with the gaseous organic HAP standards in 40 CFR 63.862(c)(2) for semichemical combustion units must use Method 25A in Appendix A of 40 CFR 60, as well as the methods listed in paragraphs (b)(5)(i) through (iv) of this section. The sampling time for each Method 25A run must be at least 60 minutes. The calibration gas for each Method 25A run must be propane.

(1) The emission rate from any new or existing semichemical combustion unit must be determined using Equation 11 of this section as follows:

$$ER_{SCCU} = \frac{(THC_{meas})}{BLS} \qquad \text{(Eq. 11)}$$

Where:

ER_{SCCU} = THC emission rate reported as carbon from each semichemical combustion unit, kg/Mg (lb/ton) of black liquor solids fired;
THC_{meas} = Measured THC mass emission rate reported as carbon, kg/hr (lb/hr); and
BLS = Average black liquor solids firing rate, Mg/hr (ton/hr); determined using process data measured during the performance test.

(2) If the owner or operator of the semichemical combustion unit has selected the percentage reduction standards for THC, under 40 CFR 63.862(c)(2)(ii), the percentage reduction in THC emissions is computed using Equation 12 of this section as follows, provided that Ei and Eo are measured simultaneously:

$$(\%R_{THC}) = \left(\frac{E_i - E_o}{E_i}\right) \times 100 \qquad (Eq.\ 12)$$

Where:

$\%R_{THC}$ = percentage reduction of total hydrocarbons emissions achieved.
E_i = measured THC mass emission rate at the THC control device inlet, kg/hr (lb/hr).
E_o = measured THC mass emission rate at the THC control device outlet, kg/hr (lb/hr).
[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 37593, July 19, 2001; 68 FR 7716, Feb. 18, 2003; 68 FR 67955, Dec. 5, 2003]

<u>40 CFR 63.866 - Recordkeeping requirements</u>
(a) Startup, shutdown, and malfunction plan. The owner or operator must develop a written plan as described in 40 CFR 63.6(e)(3) that contains specific procedures for operating the source and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and control systems used to comply with the standards. In addition to the information required in 40 CFR 63.6(e), the plan must include the requirements in paragraphs (a)(1) and (2) of this section.

(1) Procedures for responding to any process parameter level that is inconsistent with the level(s) established under 40 CFR 63.864(j), including the procedures in paragraphs (a)(1)(i) and (ii) of this section:

(i) Procedures to determine and record the cause of an operating parameter exceedance and the time the exceedance began and ended; and

(ii) Corrective actions to be taken in the event of an operating parameter exceedance, including procedures for recording the actions taken to correct the exceedance.

(2) The startup, shutdown, and malfunction plan also must include the schedules listed in paragraphs (a)(2)(i) and (ii) of this section:

(i) A maintenance schedule for each control technique that is consistent with, but not limited to, the manufacturer's instructions and recommendations for routine and long-term maintenance; and

(ii) An inspection schedule for each continuous monitoring system required under 40 CFR 63.864 to ensure, at least once in each 24-hour period, that each continuous monitoring system is properly functioning.

(b) The owner or operator of an affected source or process unit must maintain records of any occurrence when corrective action is required under 40 CFR 63.864(k)(1), and when a violation is noted under 40 CFR 63.864(k)(2).
(c) In addition to the general records required by 40 CFR 63.10(b)(2), the owner or operator must maintain records of the information in paragraphs (c)(1) through (7) of this section:

(1) Records of black liquor solids firing rates in units of Mg/d or ton/d for all recovery furnaces and semichemical combustion units;

(2) Records of CaO production rates in units of Mg/d or ton/d for all lime kilns;

(3) Records of parameter monitoring data required under 40 CFR 63.864, including any period when the operating parameter levels were inconsistent with the levels established during the initial performance test, with a

brief explanation of the cause of the deviation, the time the deviation occurred, the time corrective action was initiated and completed, and the corrective action taken;

(4) Records and documentation of supporting calculations for compliance determinations made under 40 CFR 63.865(a) through (d);

(5) Records of monitoring parameter ranges established for each affected source or process unit;

(6) Records certifying that an NDCE recovery furnace equipped with a dry ESP system is used to comply with the gaseous organic HAP standard in 40 CFR 63.862(c)(1).

(7) For the bag leak detection system on the hog fuel dryer fabric filter at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken.

(d) For operation under 40 CFR 63.863(c)(2), Georgia-Pacific Corporation must keep a record of the hours of operation of the two existing semichemical combustion units at their Big Island, VA facility.

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001; 68 FR 7718, Feb. 18, 2003; 69 FR 25323, May 6, 2004; 71 FR 20458, Apr. 20, 2006]

<u>40 CFR 63.867 - Reporting requirements</u>

(a) Notifications

(1) The owner or operator of any affected source or process unit must submit the applicable notifications from Subpart A of 40 CFR 63, as specified in Table 1 of this Subpart.

(2) Notifications specific to Georgia-Pacific Corporation's affected sources in Big Island, Virginia.

(i) For a compliance extension under 40 CFR 63.863(c)(1), submit a notice that provides the date of Georgia-Pacific's determination that the black liquor gasification system is not successful and the reasons why the technology is not successful. The notice must be submitted within 15 days of Georgia-Pacific's determination, but not later than March 16, 2005.

(ii) For operation under 40 CFR 63.863(c)(2), submit a notice providing: a statement that Georgia-Pacific Corporation intends to run the Kraft black liquor trials, the anticipated period in which the trials will take place, and a statement explaining why the trials could not be conducted prior to March 1, 2005. The notice must be submitted at least 30 days prior to the start of the Kraft liquor trials.

(3) In addition to the requirements in Subpart A of 40 CFR 63, the owner or operator of the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington, facility (Emission Unit no. HD-14) must include analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in 40 CFR 63.864(e)(12) in the Notification of Compliance Status.

(b) Additional reporting requirements for HAP metals standards

(1) Any owner or operator of a group of process units in a chemical recovery system at a mill complying with the PM emissions limits in 40 CFR 63.862(a)(1)(ii) must submit the PM emissions limits determined in 40 CFR 63.865(a) for each affected kraft or soda recovery furnace, smelt dissolving tank, and lime kiln to the Administrator for approval. The emissions limits must be submitted as part of the notification of compliance status required under Subpart A of 40 CFR 63.

(2) Any owner or operator of a group of process units in a chemical recovery system at a mill complying with the PM emissions limits in 40 CFR 63.862(a)(1)(ii) must submit the calculations and supporting documentation used in 40 CFR 63.865(a)(1) and (2) to the Administrator as part of the notification of compliance status required under Subpart A of 40 CFR 63.

(3) After the Administrator has approved the emissions limits for any process unit, the owner or operator of a process unit must notify the Administrator before any of the actions in paragraphs (b)(3)(i) through (iv) of this section are taken:

(i) The air pollution control system for any process unit is modified or replaced;

(ii) Any kraft or soda recovery furnace, smelt dissolving tank, or lime kiln in a chemical recovery system at a kraft or soda pulp mill complying with the PM emissions limits in 40 CFR 63.862(a)(1)(ii) is shut down for more than 60 consecutive days;

(iii) A continuous monitoring parameter or the value or range of values of a continuous monitoring parameter for any process unit is changed; or

(iv) The black liquor solids firing rate for any kraft or soda recovery furnace during any 24-hour averaging period is increased by more than 10 percent above the level measured during the most recent performance test.

(4) An owner or operator of a group of process units in a chemical recovery system at a mill complying with the PM emissions limits in 40 CFR 63.862(a)(1)(ii) and seeking to perform the actions in paragraph (b)(3)(i) or (ii) of this section must recalculate the overall PM emissions limit for the group of process units and resubmit the documentation required in paragraph (b)(2) of this section to the Administrator. All modified PM emissions limits are subject to approval by the Administrator.

(c) Excess emissions report. The owner or operator must report quarterly if measured parameters meet any of the conditions specified in paragraph (k)(1) or (2) of 40 CFR 63.864. This report must contain the information specified in 40 CFR 63.10(c) of 40 CFR 63 as well as the number and duration of occurrences when the source met or exceeded the conditions in 40 CFR 63.864(k)(1), and the number and duration of occurrences when the source met or exceeded the conditions in 40 CFR 63.864(k)(2). Reporting excess emissions below the violation thresholds of 40 CFR 63.864(k) does not constitute a violation of the applicable standard.

(1) When no exceedances of parameters have occurred, the owner or operator must submit a semiannual report stating that no excess emissions occurred during the reporting period.

(2) The owner or operator of an affected source or process unit subject to the requirements of this Subpart and Subpart S of 40 CFR 63 may combine excess emissions and/or summary reports for the mill.

[66 FR 3193, Jan. 12, 2001 as amended at 66 FR 16408, Mar. 26, 2001; 68 FR 7718, Feb. 18, 2003; 68 FR 42605, July 18, 2003; 68 FR 46108, Aug. 5, 2003; 69 FR 25323, May 6, 2004]

40 CFR 63.868 - Delegation of authority

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Clean Air Act, the authorities contained in paragraph (b) of this section must be retained by the Administrator and not transferred to a State.

(b) The authorities which will not be delegated to States are listed in paragraphs (b)(1) through (4) of this section:

(1) Approval of alternatives to standards in 40 CFR 63.862 under 40 CFR 63.6(g).

(2) Approval of major alternatives to test methods under 40 CFR 63.7(e)(2)(ii) and (f) and as defined in 40 CFR 63.90.

(3) Approval of major alternatives to monitoring under 40 CFR 63.8(f) and as defined in 40 CFR 63.90.

(4) Approval of major alternatives to recordkeeping and reporting under 40 CFR 63.10(f) and as defined in 40 CFR 63.90.

Table 1 to Subpart MM of 40 CFR 63 - General Provisions Applicability to Subpart MM

General provisions reference	Summary of requirements	Applies to supbart MM	Explanation
63.1(a)(1)	General applicability of the General Provisions	Yes	Additional terms defined in 40 CFR 63.861; when overlap between Subparts A and MM of 40 CFR 63 Subpart MM takes precedence.
63.1(a)(2)-(14)	General applicability of the General Provisions	Yes	
63.1(b)(1)	Initial applicability determination.	No	Subpart MM specifies the applicability in 40 CFR 63.860.
63.1(b)(2)	Title V operating permit-see 40 CFR 70	Yes	All major affected sources are required to obtain a title V permit.
63.1(b)(3)	Record of the applicability determination	No	All affected sources are subject to Subpart MM according to the applicability definition of Subpart MM.
63.1(c)(1)	Applicability of Subpart A of 40 CFR 63 after	Yes	Subpart MM clarifies the applicability of each

	a relevant standard has been set		paragraph of Subpart A of 40 CFR 63 to sources subject to Subpart MM.
63.1(c)(2)	Title V permit requirement	Yes	All major affected sources are required to obtain a title V permit. There are no area sources in the pulp and paper mill source category.
63.1(c)(3)	[Reserved]	NA	
63.1(c)(4)	Requirements for existing source that obtains an extension of compliance	Yes	
63.1(c)(5)	Notification requirements for an area source that increases HAP emissions to major source levels	Yes	
63.1(d)	[Reserved]	NA	
63.1(e)	Applicability of permit program before a relevant standard has been set	Yes	
63.2	Definitions	Yes	Additional terms defined in 40 CFR 63.861; when overlap between Subparts A and MM of 40 CFR 63 occurs, Subpart MM takes precedence.
63.3	Units and abbreviations	Yes	
63.4	Prohibited activities and circumvention	Yes	
63.5(a)	Construction and reconstruction-applicability	Yes	
63.5(b)(1)	Upon construction, relevant standards for new sources	Yes	
63.5(b)(2)	[Reserved]	NA	
63.5(b)(3)	New construction/reconstruction	Yes	
63.5(b)(4)	Construction/reconstruction notification	Yes	
63.5(b)(5)	Construction/reconstruction compliance	Yes	
63.5(b)(6)	Equipment addition or process change	Yes	
63.5(c)	[Reserved]	NA	
63.5(d)	Application for approval of construction/reconstruction	Yes	
63.5(e)	Construction/reconstruction approval	Yes	
63.5(f)	Construction/reconstruction approval based on prior State preconstruction review	Yes	
63.6(a)(1)	Compliance with standards and maintenance requirements-applicability	Yes	
63.6(a)(2)	Requirements for area source that increases emissions to become major	Yes	
63.6(b)	Compliance dates for new and reconstructed sources	Yes	
63.6(c)	Compliance dates for existing sources	Yes, except for	Subpart MM specifically stipulates the

		sources granted extensions under 63.863(c)	compliance schedule for existing sources.
63.6(d)	[Reserved]	NA	
63.6(e)	Operation and maintenance requirements	Yes	
63.6(f)	Compliance with nonopacity emissions standards	Yes	
63.6(g)	Compliance with alternative nonopacity emissions standards	Yes	
63.6(h)	Compliance with opacity and visible emissions (VE) standards	Yes	Subpart MM does not contain any opacity or VE standards; however, 40 CFR 63.864 specifies opacity monitoring requirements.
63.6(i)	Extension of compliance with emission standards	Yes, except for sources granted extensions under 63.863(c)	
63.6(j)	Exemption from compliance with emissions standards	Yes	
63.7(a)(1)	Performance testing requirements-applicability	Yes	40 CFR 63.865(c)(1) specifies the only exemption from performance testing allowed under Subpart MM.
63.7(a)(2)	Performance test dates	Yes	
63.7(a)(3)	Performance test requests by Administrator under CAA section 114	Yes	
63.7(b)(1)	Notification of performance test	Yes	
63.7(b)(2)	Notification of delay in conducting a scheduled performance test	Yes	
63.7(c)	Quality assurance program	Yes	
63.7(d)	Performance testing facilities	Yes	
63.7(e)	Conduct of performance tests	Yes	
63.7(f)	Use of an alternative test method	Yes	
63.7(g)	Data analysis, recordkeeping, and reporting	Yes	
63.7(h)	Waiver of performance tests	Yes	40 CFR 63.865(c)(1) specifies the only exemption from performance testing allowed under Subpart MM.
63.8(a)	Monitoring requirements-applicability	Yes	See 40 CFR 63.864.
63.8(b)	Conduct of monitoring	Yes	See 40 CFR 63.864.
63.8(c)	Operation and maintenance of CMS	Yes	See 40 CFR 63.864.
63.8(d)	Quality control program	Yes	See 40 CFR 63.864.
63.8(e)(1)	Performance evaluation of CMS	Yes	
63.8(e)(2)	Notification of performance evaluation	Yes	

63.8(e)(3)	Submission of site-specific performance evaluation test plan	Yes	
63.8(e)(4)	Conduct of performance evaluation and performance evaluation dates	Yes	
63.8(e)(5)	Reporting performance evaluation results	Yes	
63.8(f)	Use of an alternative monitoring method	Yes	
63.8(g)	Reduction of monitoring data	Yes	
63.9(a)	Notification requirements—applicability and general information	Yes	
63.9(b)	Initial notifications	Yes	
63.9(c)	Request for extension of compliance	Yes	
63.9(d)	Notification that source subject to special compliance requirements	Yes	
63.9(e)	Notification of performance test	Yes	
63.9(f)	Notification of opacity and VE observations	Yes	Subpart MM does not contain any opacity or VE standards; however, 40 CFR 63.864 specifies opacity monitoring requirements.
63.9(g)(1)	Additional notification requirements for sources with CMS	Yes	
63.9(g)(2)	Notification of compliance with opacity emissions standard	Yes	Subpart MM does not contain any opacity or VE emissions standards; however, 40 CFR 63.864 specifies opacity monitoring requirements.
63.9(g)(3)	Notification that criterion to continue use of alternative to relative accuracy testing has been exceeded	Yes	
63.9(h)	Notification of compliance status	Yes	
63.9(i)	Adjustment to time periods or postmark deadlines for submittal and review of required communications	Yes	
63.9(j)	Change in information already provided	Yes	
63.10(a)	Recordkeeping requirements-applicability and general information	Yes	See 40 CFR 63.866.
63.10(b)(1)	Records retention	Yes	
63.10(b)(2)	Information and documentation to support notifications and demonstrate compliance	Yes	
63.10(b)(3)	Records retention for sources not subject to relevant standard	Yes	Applicability requirements are given in 40 CFR 63.860.
63.10(c)	Additional recordkeeping requirements for sources with CMS.	Yes	
63.10(d)(1)	General reporting requirements	Yes	
63.10(d)(2)	Reporting results of performance tests	Yes	

63.10(d)(3)	Reporting results of opacity or VE observations	Yes	Subpart MM does not include any opacity or VE standards; however, 40 CFR 63.864 specifies opacity monitoring requirements.
63.10(d)(4)	Progress reports	Yes	
63.10(d)(5)	Periodic and immediate startup, shutdown, and malfunction reports	Yes	
63.10(e)	Additional reporting requirements for sources with CMS	Yes	
63.10(f)	Waiver of recordkeeping and reporting requirements	Yes	
63.11	Control device requirements for flares	No	The use of flares to meet the standards in Subpart MM is not anticipated.
63.12	State authority and delegations	Yes	
63.13	Addresses of State air pollution control agencies and EPA Regional Offices	Yes	
63.14	Incorporations by reference	Yes	
63.15	Availability of information and confidentiality	Yes	

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001]

Table 1 to Subpart MM of 40 CFR 63 - General Provisions Applicability to Subpart MM

General provisions reference	Summary of requirements	Applies to supbart MM	Explanation
63.1(a)(1)	General applicability of the General Provisions	Yes	Additional terms defined in 40 CFR 63.861; when overlap between Subparts A and MM of 40 CFR 63 Subpart MM takes precedence.
63.1(a)(2)-(14)	General applicability of the General Provisions	Yes	
63.1(b)(1)	Initial applicability determination.	No.	Subpart MM specifies the applicability in 40 CFR 63.860.
63.1(b)(2)	Title V operating permit-see 40 CFR 70	Yes	All major affected sources are required to obtain a title V permit.
63.1(b)(3)	Record of the applicability determination	No	All affected sources are subject to Subpart MM according to the applicability definition of Subpart MM.
63.1(c)(1)	Applicability of Subpart A of 40 CFR 63 after a relevant standard has been set	Yes	Subpart MM clarifies the applicability of each paragraph of Subpart A of 40 CFR 63 to sources subject to Subpart MM.
63.1(c)(2)	Title V permit requirement	Yes	All major affected sources are required to obtain a title V permit. There are no area sources in the pulp and paper mill source category.
63.1(c)(3)	[Reserved]	NA.	
63.1(c)(4)	Requirements for existing source that obtains an extension of compliance	Yes	
63.1(c)(5)	Notification requirements for an area source that increases HAP emissions to major source levels	Yes	
63.1(d)	[Reserved]	NA	
63.1(e)	Applicability of permit program before a relevant standard has been set	Yes	
63.2	Definitions	Yes	Additional terms defined in 40 CFR 63.861; when overlap between Subparts A and MM of 40 CFR 63 occurs, Subpart MM takes precedence.
63.3	Units and abbreviations	Yes	
63.4	Prohibited activities and circumvention	Yes	
63.5(a)	Construction and reconstruction-applicability	Yes	

63.5(b)(1)	Upon construction, relevant standards for new sources	Yes	
63.5(b)(2)	[Reserved]	NA	
63.5(b)(3)	New construction/reconstruction	Yes	
63.5(b)(4)	Construction/reconstruction notification	Yes	
63.5(b)(5)	Construction/reconstruction compliance	Yes	
63.5(b)(6)	Equipment addition or process change	Yes	
63.5(c)	[Reserved]	NA	
63.5(d)	Application for approval of construction/reconstruction	Yes	
63.5(e)	Construction/reconstruction approval	Yes	
63.5(f)	Construction/reconstruction approval based on prior State preconstruction review	Yes	
63.6(a)(1)	Compliance with standards and maintenance requirements—applicability	Yes	
63.6(a)(2)	Requirements for area source that increases emissions to become major	Yes	
63.6(b)	Compliance dates for new and reconstructed sources	Yes	
63.6(c)	Compliance dates for existing sources	Yes, except for sources granted extensions under 63.863(c)	Subpart MM specifically stipulates the compliance schedule for existing sources.
63.6(d)	[Reserved]	NA	
63.6(e)	Operation and maintenance requirements	Yes	
63.6(f)	Compliance with nonopacity emissions standards	Yes	
63.6(g)	Compliance with alternative nonopacity emissions standards	Yes	
63.6(h)	Compliance with opacity and visible emissions (VE) standards	Yes	Subpart MM does not contain any opacity or VE standards; however, 40 CFR 63.864 specifies opacity monitoring requirements.
63.6(i)	Extension of compliance with emission standards	Yes, except for sources granted extensions under 63.863(c)	
63.6(j)	Exemption from compliance with emissions standards	Yes	
63.7(a)(1)	Performance testing requirements—applicability	Yes	40 CFR 63.865(c)(1) specifies the only exemption from performance

			testing allowed under Subpart MM.
63.7(a)(2)	Performance test dates	Yes	
63.7(a)(3)	Performance test requests by Administrator under CAA section 114	Yes	
63.7(b)(1)	Notification of performance test	Yes	
63.7(b)(2)	Notification of delay in conducting a scheduled performance test	Yes	
63.7(c)	Quality assurance program	Yes	
63.7(d)	Performance testing facilities	Yes	
63.7(e)	Conduct of performance tests	Yes	
63.7(f)	Use of an alternative test method	Yes	
63.7(g)	Data analysis, recordkeeping, and reporting	Yes	
63.7(h)	Waiver of performance tests	Yes	40 CFR 63.865(c)(1) specifies the only exemption from performance testing allowed under Subpart MM.
63.8(a)	Monitoring requirements—applicability	Yes	See 40 CFR 63.864.
63.8(b)	Conduct of monitoring	Yes	See 40 CFR 63.864.
63.8(c)	Operation and maintenance of CMS	Yes	See 40 CFR 63.864.
63.8(d)	Quality control program	Yes	See 40 CFR 63.864.
63.8(e)(1)	Performance evaluation of CMS	Yes	
63.8(e)(2)	Notification of performance evaluation	Yes	
63.8(e)(3)	Submission of site-specific performance evaluation test plan	Yes	
63.8(e)(4)	Conduct of performance evaluation and performance evaluation dates	Yes	
63.8(e)(5)	Reporting performance evaluation results	Yes	
63.8(f)	Use of an alternative monitoring method	Yes	
63.8(g)	Reduction of monitoring data	Yes	
63.9(a)	Notification requirements—applicability and general information	Yes	
63.9(b)	Initial notifications	Yes	
63.9(c)	Request for extension of compliance	Yes	
63.9(d)	Notification that source subject to special compliance requirements	Yes	
63.9(e)	Notification of performance test	Yes	
63.9(f)	Notification of opacity and VE observations	Yes	Subpart MM does not contain any opacity or VE standards; however, 40 CFR 63.864 specifies opacity

			monitoring requirements.
63.9(g)(1)	Additional notification requirements for sources with CMS	Yes	
63.9(g)(2)	Notification of compliance with opacity emissions standard	Yes	Subpart MM does not contain any opacity or VE emissions standards; however, 40 CFR 63.864 specifies opacity monitoring requirements.
63.9(g)(3)	Notification that criterion to continue use of alternative to relative accuracy testing has been exceeded	Yes	
63.9(h)	Notification of compliance status	Yes	
63.9(i)	Adjustment to time periods or postmark deadlines for submittal and review of required communications	Yes	
63.9(j)	Change in information already provided	Yes	
63.10(a)	Recordkeeping requirements—applicability and general information	Yes	See 40 CFR 63.866.
63.10(b)(1)	Records retention	Yes	
63.10(b)(2)	Information and documentation to support notifications and demonstrate compliance	Yes	
63.10(b)(3)	Records retention for sources not subject to relevant standard	Yes	Applicability requirements are given in 40 CFR 63.860.
63.10(c)	Additional recordkeeping requirements for sources with CMS.	Yes	
63.10(d)(1)	General reporting requirements	Yes	
63.10(d)(2)	Reporting results of performance tests	Yes	
63.10(d)(3)	Reporting results of opacity or VE observations	Yes	Subpart MM does not include any opacity or VE standards; however, 40 CFR 63.864 specifies opacity monitoring requirements.
63.10(d)(4)	Progress reports	Yes	
63.10(d)(5)	Periodic and immediate startup, shutdown, and malfunction reports	Yes	
63.10(e)	Additional reporting requirements for sources with CMS	Yes	
63.10(f)	Waiver of recordkeeping and reporting requirements	Yes	
63.11	Control device requirements for flares	No	The use of flares to meet the standards in Subpart MM is not anticipated.
63.12	State authority and delegations	Yes	
63.13	Addresses of State air pollution control	Yes	

	agencies and EPA Regional Offices		
63.14	Incorporations by reference	Yes	
63.15	Availability of information and confidentiality	Yes	

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001]

Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

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Appendix A - Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

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

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What This Subpart Covers

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40 CFR 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]

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40 CFR 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 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 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 40 CFR 63.6675, which includes operating according to the provisions specified in 40 CFR 63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in 40 CFR 63.6640(f)(4)(ii).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in 40 CFR 63.6640(f)(4)(ii).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in 40 CFR 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]

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40 CFR63.6590 - 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 40 CFR 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 40 CFR 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 40 CFR 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 40 CFR 63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of 40 CFR 63.6645(f) and the requirements of 40 CFR 63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this Subpart.

(3) The following stationary RICE do not have to meet the requirements of this Subpart and of Subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(c) Stationary RICE subject to Regulations under 40 CFR 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 60 Subpart IIII, for compression ignition engines or 40 CFR 60 Subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010; 78 FR 6700, Jan. 30, 2013]

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40 CFR 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 40 CFR 63.6645 and in 40 CFR 63 Subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 78 FR 6701, Jan. 30, 2013]

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Emission and Operating Limitations

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40 CFR 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 40 CFR 63.6620 and Table 4 to this Subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this Subpart and the operating limitations in Table 1b to this Subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this Subpart and the operating limitations in Table 2b to this Subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this Subpart or operating limitations in Tables 1b and 2b to this Subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this Subpart and the operating limitations in Table 2b to this Subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

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40 CFR 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 40 CFR 63.6620 and Table 4 to this Subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site

rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this Subpart and the operating limitations in Table 2b to this Subpart which apply to you.
[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

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40 CFR 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 40 CFR 63.6620 and Table 4 to this Subpart.
[78 FR 6701, Jan. 30, 2013]

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40 CFR 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 40 CFR 63.6620 and Table 4 to this Subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this Subpart and the operating limitations in Table 2b to this Subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either paragraph (b)(1) or (2) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this Subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either paragraph (b)(1) or (2) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this Subpart.

(1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).

(2) The stationary RICE is located at an area source that meets paragraphs (b)(2)(i), (ii), and (iii) of this section.

(i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in 40 CFR 55.2, you do not have to meet the numerical CO emission limitations specified in Table 2d of this Subpart. You must meet all of the following management practices:

(1) Change oil every 1,000 hours of operation or annually, whichever comes first. Sources have the option to utilize an oil analysis program as described in 40 CFR 63.6625(i) in order to extend the specified oil change requirement.

(2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June

1, 2018, choose to comply with the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this Subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system requirements in 40 CFR 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 40 CFR 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 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 40 CFR 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 40 CFR 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 40 CFR 63.6675 of this Subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.
[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6701, Jan. 30, 2013]

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40 CFR 63.6604 - What fuel requirements must I meet if I own or operate a stationary CI RICE?

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel.
(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in 40 CFR 63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.
(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.
(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either 40 CFR 63.6603(b)(1) or 40 CFR 63.6603(b)(2), or are on offshore vessels that meet 40 CFR 63.6603(c) are exempt from the requirements of this section.
[78 FR 6702, Jan. 30, 2013]

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General Compliance Requirements

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40 CFR 63.6605 - What are my general requirements for complying with this Subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this Subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010, as amended at 78 FR 6702, Jan. 30, 2013]

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Testing and Initial Compliance Requirements

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40 CFR 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 40 CFR 63.6595 and according to the provisions in 40 CFR 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 40 CFR 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 40 CFR 63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this Subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

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40 CFR 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 40 CFR 63.6595 and according to the provisions specified in Table 4 to this Subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

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40 CFR 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 40 CFR 63.6595 and according to the provisions in 40 CFR 63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this Subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

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40 CFR 63.6615 - When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this Subpart.

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40 CFR 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 40 CFR 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:

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

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Where:
C_i = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,
C_o = concentration of CO, THC, or formaldehyde at the control device outlet, and
R = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (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:

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

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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:

$$X_{CO2} = \frac{5.9}{F_o} \quad (Eq.\ 3)$$

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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:

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO_2} \quad (Eq.\ 4)$$

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Where:
C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O_2.
C_d = Measured concentration of CO, THC, or formaldehyde, uncorrected.
X_{CO2} = CO_2 correction factor, percent.
$\%CO_2$ = Measured CO_2 concentration measured, dry basis, percent.
(
f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.
(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;
(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;
(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;
(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and
(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (e.g., operator adjustment, automatic controller adjustment, etc.) or unintentionally (e.g., wear and tear, error, etc.) on a routine basis or over time;
(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;
(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;
(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;
(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;
(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and
(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.
[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010; 78 FR 6702, Jan. 30, 2013]

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40 CFR 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 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 40 CFR 63.8 and according to the applicable performance specifications of 40 CFR 60 Appendix B as well as daily and periodic data quality checks in accordance with 40 CFR 60 Appendix F, procedure 1.

(3) As specified in 40 CFR 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 40 CFR 63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2 concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this Subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in 40 CFR 63.8(d). As specified in 40 CFR 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 40 CFR 63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in 40 CFR 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 40 CFR 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 40 CFR 63.6603(b)(1) or 40 CFR 63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet 40 CFR 63.6603(c) do not have to meet the requirements of this paragraph (g).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this Subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this Subpart or in items 1 or 4 of Table 2d to this Subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this Subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this Subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must

change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this Subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this Subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this Subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this Subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6703, Jan. 30, 2013]

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40 CFR 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 40 CFR 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 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]

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Continuous Compliance Requirements

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40 CFR 63.6635 - How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

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40 CFR 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 40 CFR 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 60 Appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this Subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this Subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this Subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the

stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this Subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this Subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this Subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this Subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this Subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this Subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

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

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand

response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6704, Jan. 30, 2013]

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Notifications, Reports, and Record
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40 CFR 63.6645 - What notifications must I submit and when?

(a) You must submit all of the notifications in 40 CFR 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 40 CFR 63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this Subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this Subpart.

(d) As specified in 40 CFR 63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this Subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this Subpart.
(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this Subpart, in accordance with 40 CFR 63.6590(b), your notification should include the information in 40 CFR 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 40 CFR 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 40 CFR 63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this Subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.
(2) For each initial compliance demonstration required in Table 5 to this Subpart that includes a performance test conducted according to the requirements in Table 3 to this Subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to 40 CFR 63.10(d)(2).

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in 40 CFR 63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in 40 CFR 63.6603(d) and identifying the state or local regulation that the engine is subject to.
[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6705, Jan. 30, 2013]

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40 CFR 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 40 CFR 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 40 CFR 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 40 CFR 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 40 CFR 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 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 40 CFR 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 40 CFR 63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 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 40 CFR 63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this Subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this Subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in 40 CFR 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a Title V operating permit pursuant to 40 CFR 70 or 71 must report all deviations as defined in this Subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this Subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the

Compliance report includes all required information concerning deviations from any emission or operating limitation in this Subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this Subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in 40 CFR 63.6640(f)(4)(ii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purpose specified in 40 CFR 63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 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 40 CFR 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 40 CFR 63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the Subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this Subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR 63.13.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010; 78 FR 6705, Jan. 30, 2013]

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40 CFR 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 40 CFR 63.10(b)(2)(xiv).
(2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.
(3) Records of performance tests and performance evaluations as required in 40 CFR 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 40 CFR 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 40 CFR 63.10(b)(2)(vi) through (xi).
(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3).
(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in 40 CFR 63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this Subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;
(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.
(2) An existing stationary emergency RICE.
(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this Subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in 40 CFR 63.6640(f)(2)(ii) or (iii) or 40 CFR 63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.
(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.
(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

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40 CFR 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 40 CFR 63.10(b)(1).

(b) As specified in 40 CFR 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 40 CFR 63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

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Other Requirements and Information

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40 CFR 63.6665 - What parts of the General Provisions apply to me?

Table 8 to this Subpart shows which parts of the General Provisions in 40 CFR 63.1 through 63.15 apply to you. f you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

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40 CFR 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 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 40 CFR 63.6600 under 40 CFR 63.6(g).

(2) Approval of major alternatives to test methods under 40 CFR 63.7(e)(2)(ii) and (f) and as defined in 40 CFR 63.90.

(3) Approval of major alternatives to monitoring under 40 CFR 63.8(f) and as defined in 40 CFR 63.90.

(4) Approval of major alternatives to recordkeeping and reporting under 40 CFR 63.10(f) and as defined in 40 CFR 63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in 40 CFR 63.6610(b).

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40 CFR 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 40 CFR 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 40 CFR 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 40 CFR 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 40 CFR 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in 40 CFR 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 40 CFR 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 40 CFR 63.6640(f)(2)(ii) or (iii) and 40 CFR 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 40 CFR 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 40 CFR 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 40 CFR 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 40 CFR 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 40 CFR 63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to 40 CFR 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 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]

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Table 1 a **to Subpart ZZZZ of 40 CFR 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 40 CFR 63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE > 500 HP located at a major source of HAP emissions:

For each	You must meet the following emission limitation, except during periods of startup	During periods of startup you must
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

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

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

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Table 1 b to Subpart ZZZZ of 40 CFR 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 40 CFR 63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE > 500 HP located at a major source of HAP emissions:

For each	You must meet the following operating limitation, except during periods of startup
1. existing, new and reconstructed 4SRB stationary RICE > 500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE > 500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and using NSCR;	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.[1]
2. existing, new and reconstructed 4SRB stationary RICE > 500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or	Comply with any operating limitations approved by the Administrator.
existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and not using NSCR.	

[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]

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Table 2 a to Subpart ZZZZ of 40 CFR 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 40 CFR 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	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]

	formaldehyde to 17 ppmvd or less at 15 percent O_2 until June 15, 2007	
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

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

[75 FR 9680, Mar. 3, 2010]

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Table 2 b **to Subpart ZZZZ of 40 CFR 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 40 CFR 63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE > 500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥ 250 HP located at a major source of HAP emissions; and existing CI stationary RICE > 500 HP:

For each	You must meet the following operating limitation, except during periods of startup
1. New and reconstructed 2SLB and CI stationary RICE > 500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥ 250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE > 500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥ 250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst.	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. Existing CI stationary RICE > 500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and
	b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and

	less than or equal to 1350 °F.[1]
3. New and reconstructed 2SLB and CI stationary RICE > 500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥ 250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and	Comply with any operating limitations approved by the Administrator.
New and reconstructed 2SLB and CI stationary RICE > 500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥ 250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and	
Existing CI stationary RICE > 500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.	

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

[78 FR 6707, Jan. 30, 2013]

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Table 2 c to Subpart ZZZZ of 40 CFR 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 40 CFR 63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤ 500 HP located at a major source of HAP emissions:

For each	You must meet the following requirement, except during periods of startup	During periods of startup you must
1. Emergency stationary CI RICE and black start stationary CI RICE [1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE < 100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;	

	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100 ≤ HP ≤ 300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2.	
4. Non-Emergency, non-black start CI stationary RICE 300 > HP ≤ 500." is corrected to read "4. Non-Emergency, non-black start CI stationary RICE 300 < HP ≤ 500.	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2 or b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE > 500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2 or b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI RICE < 100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	

8. Non-Emergency, non-black start 2SLB stationary SI RICE < 100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
9. Non-emergency, non-black start 2SLB stationary RICE 100 ≤ HP ≤ 500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2.	
10. Non-emergency, non-black start 4SLB stationary RICE 100 ≤ HP ≤ 500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2.	
11. Non-emergency, non-black start 4SRB stationary RICE 100 ≤ HP ≤ 500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2.	
12. Non-emergency, non-black start stationary RICE 100 ≤ HP ≤ 500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O_2.	

[1] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this Subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[2] Sources have the option to utilize an oil analysis program as described in 40 CFR 63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2c of this Subpart.

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

[78 FR 6708, Jan. 30, 2013, as amended at 78 FR 14457, Mar. 6, 2013]

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Table 2 d to Subpart ZZZZ of 40 CFR 63 - Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in 40 CFR 63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each	You must meet the following requirement, except during periods of startup	During periods of startup you must
1. Non-Emergency, non-black start CI stationary RICE ≤ 300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[1] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
2. Non-Emergency, non-black start CI stationary RICE 300 < HP ≤ 500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2 or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE > 500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE;	a. Change oil and filter every 500	

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]	hours of operation or annually, whichever comes first;[1]; b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤ 500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB remote stationary RICE > 500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually,	

	whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
9. Non-emergency, non-black start 4SLB stationary RICE > 500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.	
10. Non-emergency, non-black start 4SRB stationary RICE ≤ 500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
11. Non-emergency, non-black start 4SRB remote stationary RICE > 500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
12. Non-emergency, non-black start 4SRB stationary RICE > 500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of	a. Change oil and filter every 1,440 hours of operation or annually,	

the gross heat input on an annual basis	whichever comes first;[1] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1] Sources have the option to utilize an oil analysis program as described in 40 CFR 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.

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Table 3 to Subpart ZZZZ of 40 CFR 63 - Subsequent Performance Tests

As stated in 40 CFR 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 ≥ 50 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.
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Table 4 to Subpart ZZZZ of 40 CFR 63 - Requirements for Performance Tests

As stated in 40 CFR 63.6610, 63.6611, 63.6612, 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. Measure the O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR 60 Appendix A, or ASTM Method D6522-00 (Reapproved 2005).[a c]	(a) Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) ASTM D6522-00 (Reapproved 2005) [a b c]or Method 10 of 40 CFR 60 Appendix A	(a) The CO concentration must be at 15 percent O_2, dry basis.
2. 4SRB stationary RICE	a. reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR 60 Appendix A 40 CFR 63.7(d)(1)(i)	(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; and	(1) Method 3 or 3A or 3B of 40 CFR 60 Appendix A, or ASTM Method D6522-00 (Reapproved 2005).[a]	(a) measurements to determine O_2 concentration must be made at the same time as the measurements for formaldehyde or THC concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR Appendix A, or Test Method 320 of 40 CFR 63 Appendix A, or ASTM D 6348-03.[a]	(a) measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.
		iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR 63 Appendix A; or ASTM D6348-03,[a]provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. If demonstrating compliance with	(1) Method 25A, reported as propane, of 40 CFR	(a) THC concentration must be at

		the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	60 Appendix A	15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR 60 Aappendix A 40 CFR 63.7(d)(1)(i)	(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 60 Appendix A, or ASTM Method D6522-00 (Reapproved 2005).[a]	(a) measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR 60 Appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03.[a]	(a) measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 or 323 of 40 CFR 63 Appendix A; or ASTM D6348-03,[a]provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. measure CO at the exhaust of the stationary RICE.	(1) Method 10 of 40 CFR 60 Appendix A, ASTM Method D6522-00 (2005),[a] [c]Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03.[a]	(a) CO concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

[a] Incorporated by reference, see 40 CFR 63.14. You may also obtain copies from University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[b] You may also use Method 320 of 40 CFR 63 Appendix A, or ASTM D6348-03.

[c] ASTM-D6522-00 (2005) may be used to test both CI and SI stationary RICE.

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Table 5 to Subpart ZZZZ of 40 CFR 63 - Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

As stated in 40 CFR 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 40 CFR 63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE > 500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE > 500 HP located at an area source of HAP	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in 40 CFR 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 40 CFR 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 40 CFR 63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >	a. Reduce CO emissions, and	i. You have installed a CEMS to continuously monitor CO and

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	using a CEMS	either O_2 or CO_2 at both the inlet and outlet of the oxidation catalyst according to the requirements in 40 CFR 63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR 60 Appendix B; and
		iii. The average reduction of CO calculated using 40 CFR 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 40 CFR 63.6625(a); and
		ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR 60 Appendix B; and
		iii. The average concentration of CO calculated using 40 CFR 63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE > 500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in 40 CFR 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 40 CFR 63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. New or reconstructed non-emergency stationary RICE > 500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250 ≤ HP ≤ 500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE > 500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in 40 CFR 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 40 CFR 63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
11. Existing non-emergency stationary RICE 100 ≤ HP ≤ 500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300 < HP ≤ 500 located at an area source of HAP	a. Reduce CO emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
12. Existing non-emergency stationary RICE 100 ≤ HP ≤ 500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300 < HP ≤ 500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.
13. Existing non-emergency 4SLB stationary RICE > 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. You have conducted an initial compliance demonstration as specified in 40 CFR 63.6630(e) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in 40 CFR

		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 40 CFR 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 40 CFR 63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1250 °F.

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Table 6 to Subpart ZZZZ of 40 CFR 63 - Continuous Compliance With Emission Limitations, and Other Requirements

As stated in 40 CFR 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 40 CFR 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE > 500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥ 250 HP located at a	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

major source of HAP, and new or reconstructed non-emergency CI stationary RICE > 500 HP located at a major source of HAP		ii. Collecting the approved operating parameter (if any) data according to 40 CFR 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE > 500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥ 250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE > 500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE > 500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to 40 CFR 63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to 40 CFR 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 60 Appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR 60 Appendix F, Procedure 1.
4. Non-emergency 4SRB stationary RICE > 500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to 40 CFR 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 40 CFR 63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP ≥ 5,000	a. Reduce formaldehyde	Conducting semiannual performance tests for formaldehyde to

located at a major source of HAP	emissions	demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent.[a]
7. New or reconstructed non-emergency stationary RICE > 500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤ HP ≤ 500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit [a]; and ii. Collecting the catalyst inlet temperature data according to 40 CFR 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE > 500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤ HP ≤ 500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit [a]; and ii. Collecting the approved operating parameter (if any) data according to 40 CFR 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE ≤ 500 HP located at a major source of HAP, existing non-emergency stationary RICE < 100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤ 300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤ 500 HP located at an area source of HAP, existing non-emergency 4SLB	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

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		
10. Existing stationary CI RICE > 500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to 40 CFR 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE > 500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to 40 CFR 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE > 500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit;

		and
		ii. Collecting the catalyst inlet temperature data according to 40 CFR 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE > 500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to 40 CFR 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
14. Existing non-emergency 4SLB stationary RICE > 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. Conducting annual compliance demonstrations as specified in 40 CFR 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 40 CFR 63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.
15. Existing non-emergency 4SRB stationary RICE > 500 HP located at an area source of HAP that are not remote stationary	a. Install NSCR	i. Conducting annual compliance demonstrations as specified in 40 CFR 63.6640(c) to show that the average reduction of

RICE and that are operated more than 24 hours per calendar year		emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more; and either ii. Collecting the catalyst inlet temperature data according to 40 CFR 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.
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Table 7 to Subpart ZZZZ of 40 CFR 63 - Requirements for Reports

As stated in 40 CFR 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 40 CFR 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 40 CFR 63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in 40 CFR 63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.
		b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in 40 CFR 63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in 40 CFR 63.8(c)(7), the information in 40 CFR 63.6650(e); or	i. Semiannually according to the requirements in 40 CFR 63.6650(b).

		c. If you had a malfunction during the reporting period, the information in 40 CFR 63.6650(c)(4).	i. Semiannually according to the requirements in 40 CFR 63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in 40 CFR 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 40 CFR 63.6650(b)(1)-(5).
4. Emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in 40 CFR 3.6640(f)(2)(ii) and (iii) or that operate for the purposes specified in 40 CFR 63.6640(f)(4)(ii)	Report	a. The information in 40 CFR 63.6650(h)(1)	i. annually according to the requirements in 40 CFR 63.6650(h)(2)-(3).

[78 FR 6719, Jan. 30, 2013]

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Table 8 to Subpart ZZZZ of 40 CFR 63 - Applicability of General Provisions to Subpart ZZZZ.

As stated in 40 CFR 63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to Subpart	Explanation
40 CFR 63.1	General applicability of the General Provisions	Yes	
40 CFR 63.2	Definitions	Yes	Additional terms defined in 40 CFR 63.6675.
40 CFR 63.3	Units and abbreviations	Yes	
40 CFR 63.4	Prohibited activities and circumvention	Yes	
40 CFR 63.5	Construction and reconstruction	Yes	

40 CFR 63.6(a)	Applicability	Yes	
40 CFR 63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes	
40 CFR 63.6(b)(5)	Notification	Yes	
40 CFR 63.6(b)(6)	[Reserved]		
40 CFR 63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes	
40 CFR 63.6(c)(1)-(2)	Compliance dates for existing sources	Yes	
40 CFR 63.6(c)(3)-(4)	[Reserved]		
40 CFR 63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes	
40 CFR 63.6(d)	[Reserved]		
40 CFR 63.6(e)	Operation and maintenance	No	
40 CFR 63.6(f)(1)	Applicability of standards	No	
40 CFR 63.6(f)(2)	Methods for determining compliance	Yes	
40 CFR 63.6(f)(3)	Finding of compliance	Yes	
40 CFR 63.6(g)(1)-(3)	Use of alternate standard	Yes	
40 CFR 63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
40 CFR 63.6(i)	Compliance extension procedures and criteria	Yes	
40 CFR 63.6(j)	Presidential compliance exemption	Yes	
40 CFR 63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at 40 CFR 63.6610, 63.6611, and 63.6612.
40 CFR 63.7(a)(3)	CAA section 114 authority	Yes	
40 CFR 63.7(b)(1)	Notification of performance test	Yes	Except that 40 CFR 63.7(b)(1) only applies as specified in 40 CFR 63.6645.
40 CFR 63.7(b)(2)	Notification of rescheduling	Yes	Except that 40 CFR 63.7(b)(2) only applies as specified in 40

			CFR 63.6645.
40 CFR 63.7(c)	Quality assurance/test plan	Yes	Except that 40 CFR 63.7(c) only applies as specified in 40 CFR 63.6645.
40 CFR 63.7(d)	Testing facilities	Yes	
40 CFR 63.7(e)(1)	Conditions for conducting performance tests	No	Subpart ZZZZ specifies conditions for conducting performance tests at 40 CFR 63.6620.
40 CFR 63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at 40 CFR 63.6620.
40 CFR 63.7(e)(3)	Test run duration	Yes	
40 CFR 63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes	
40 CFR 63.7(f)	Alternative test method provisions	Yes	
40 CFR 63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes	
40 CFR 63.7(h)	Waiver of tests	Yes	
40 CFR 63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at 40 CFR 63.6625.
40 CFR 63.8(a)(2)	Performance specifications	Yes	
40 CFR 63.8(a)(3)	[Reserved]		
40 CFR 63.8(a)(4)	Monitoring for control devices	No	
40 CFR 63.8(b)(1)	Monitoring	Yes	
40 CFR 63.8(b)(2)-(3)	Multiple effluents and multiple monitoring systems	Yes	
40 CFR 63.8(c)(1)	Monitoring system operation and maintenance	Yes	
40 CFR 63.8(c)(1)(i)	Routine and predictable SSM	No	
40 CFR 63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes	
40 CFR 63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	No	

40 CFR 63.8(c)(2)-(3)	Monitoring system installation	Yes	
40 CFR 63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that Subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
40 CFR 63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
40 CFR 63.8(c)(6)-(8)	CMS requirements	Yes	Except that Subpart ZZZZ does not require COMS.
40 CFR 63.8(d)	CMS quality control	Yes	
40 CFR 63.8(e)	CMS performance evaluation	Yes	Except for 40 CFR 63.8(e)(5)(ii), which applies to COMS.
		Except that 40 CFR 63.8(e) only applies as specified in 40 CFR 63.6645.	
40 CFR 63.8(f)(1)-(5)	Alternative monitoring method	Yes	Except that 40 CFR 63.8(f)(4) only applies as specified in 40 CFR 63.6645.
40 CFR 63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that 40 CFR 63.8(f)(6) only applies as specified in 40 CFR 63.6645.
40 CFR 63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at 40 CFR 63.6635 and 63.6640.
40 CFR 63.9(a)	Applicability and State delegation of notification requirements	Yes	
40 CFR 63.9(b)(1)-(5)	Initial notifications	Yes	Except that 40 CFR 63.9(b)(3) is reserved.
		Except that 40 CFR 63.9(b) only applies as specified in 40 CFR 63.6645.	
40 CFR 63.9(c)	Request for compliance extension	Yes	Except that 40 CFR 63.9(c) only applies as specified in 40 CFR 63.6645.
40 CFR 63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that 40 CFR 63.9(d) only applies as specified in 40 CFR 63.6645.
40 CFR 63.9(e)	Notification of performance test	Yes	Except that 40 CFR 63.9(e) only applies as specified in 40 CFR 63.6645.

40 CFR 63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
40 CFR 63.9(g)(1)	Notification of performance evaluation	Yes	Except that 40 CFR 63.9(g) only applies as specified in 40 CFR 63.6645.
40 CFR 63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
40 CFR 63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that 40 CFR 63.9(g) only applies as specified in 40 CFR 63.6645.	
40 CFR 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. 40 CFR 63.9(h)(4) is reserved.
			Except that 40 CFR 63.9(h) only applies as specified in 40 CFR 63.6645.
40 CFR 63.9(i)	Adjustment of submittal deadlines	Yes	
40 CFR 63.9(j)	Change in previous information	Yes	
40 CFR 63.10(a)	Administrative provisions for recordkeeping/reporting	Yes	
40 CFR 63.10(b)(1)	Record retention	Yes	Except that the most recent 2 years of data do not have to be retained on site.
40 CFR 63.10(b)(2)(i)-(v)	Records related to SSM	No	
40 CFR 63.10(b)(2)(vi)-(xi)	Records	Yes	
40 CFR 63.10(b)(2)(xii)	Record when under waiver	Yes	
40 CFR 63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
40 CFR 63.10(b)(2)(xiv)	Records of supporting documentation	Yes	
40 CFR 63.10(b)(3)	Records of applicability determination	Yes	

40 CFR 63.10(c)	Additional records for sources using CEMS	Yes	Except that 40 CFR 63.10(c)(2)-(4) and (9) are reserved.
40 CFR 63.10(d)(1)	General reporting requirements	Yes	
40 CFR 63.10(d)(2)	Report of performance test results	Yes	
40 CFR 63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
40 CFR 63.10(d)(4)	Progress reports	Yes	
40 CFR 63.10(d)(5)	Startup, shutdown, and malfunction reports	No	
40 CFR 63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes	
40 CFR 63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
40 CFR 63.10(e)(3)	Excess emission and parameter exceedances reports	Yes	Except that 40 CFR 63.10(e)(3)(i) (C) is reserved.
40 CFR 63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
40 CFR 63.10(f)	Waiver for recordkeeping/reporting	Yes	
40 CFR 63.11	Flares	No	
40 CFR 63.12	State authority and delegations	Yes	
40 CFR 63.13	Addresses	Yes	
40 CFR 63.14	Incorporation by reference	Yes	
40 CFR 63.15	Availability of information	Yes	

[75 FR 9688, Mar. 3, 2010, as amended at 78 FR 6720, Jan. 30, 2013]

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Appendix A - 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 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 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											
″											
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″											

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Air Permit
Time Sensitive Action Chart

[If any of the time deadlines in the Air Permit Action List are inconsistent with a time deadline in a permit condition, the time deadline in the permit condition shall be followed.]

SOURCE	ACTION	DUE DATE
Facility-Wide	EAOR Title V Annual Emissions Fee Invoice and Fee Payment [Rules 62-210.370(3), 62-210.900 & 62-213.205, F.A.C.; and, §403.0872(11), Florida Statutes (2013)]	April 1 - annually
Facility-Wide	Annual Statement of Compliance [Rules 62-213.440(3)(a)2. & 3. and (b), F.A.C.]	Before March 1 - annually
Facility-Wide	Risk Management Plan [40 CFR 68]	Revision, renewal - anytime
Facility-Wide	Plant Problems/Permit Deviations	Immediately upon occurrence
Facility-Wide	Malfunction Excess Emissions Report	Quarterly (if requested)
Facility-Wide	Semiannual Report [40 CFR 63.864(k)(1) or (2)]	as agreed with Administrator
EU 029, 030	On-Site Recordkeeping [Rule 62-4.070(3), F.A.C.; and permit 0330042-018-AC]	at time of inspection
	Test Notification [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
EU 033	On-Site Recordkeeping [Rule 62-4.070(3), F.A.C.; and permit 0330042-018-AC]	at time of inspection
	Test Notification [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
EU 037	On-Site Recordkeeping [Rule 62-213.440(1), F.A.C., and 40 CFR 279.11]	at time of inspection
	Test Notification [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
EU 002	On-Site Recordkeeping [Rules 62-4.070(3) and 62-213.410(1), F.A.C.]	at time of inspection
	Test Notification [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
EU 003	On-Site Recordkeeping [Rules 62-4.070(3) and 62-213.410(1), F.A.C.]	at time of inspection
	Test Notification [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
EU 032, 038	On-Site Recordkeeping 40 CFR 63 subpart MM	at time of inspection
	Test Notification [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
EU 028	On-Site Recordkeeping [Rule 62-213.410, F.A.C. and permit 0330042-017-AC]	at time of inspection
	Test Notification [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
EU 001	On-Site Recordkeeping [Rules 62-213.440(1) and 62-296.404(3)(b)1., F.A.C.]	at time of inspection
	Test Notification [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
EU 049	On-Site Recordkeeping [Permit AC17-223343/PSD-FL-200]	at time of inspection
EU 051	On-Site Recordkeeping [Rules 62-204.800(11), F.A.C., 40 CFR 63.453]	Before March 1 - annually
	Actual Emissions Reporting [Rules 62-212.300(1)(e)]	Before March 1 - annually
EU 055	On-Site Recordkeeping [Rule 62-296.404(3)(a)3., F.A.C.]	at time of inspection

EU 067	On-Site Recordkeeping [Rule 62-296.404(3)(a)(1) and permit 0330042-006-AC]	at time of inspection
	Test Notification [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
	Actual Emissions Reporting [Rules 62-212.300(1)(e)]	Before March 1 - annually
EU 046	On-Site Recordkeeping [Rule 62-213.440(1), F.A.C.]	at time of inspection
	Test Notification [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
EU 044 (Unit is currently not operating)	On-Site Recordkeeping [Rule 62-213.440(1), F.A.C.]	at time of inspection
	Test Notification (If operating) [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report (If operating) [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
EU 052	On-Site Recordkeeping [Rule 62-4.070(3), F.A.C.]	at time of inspection
	Test Notification [Rule 62-297.310(7)(a), F.A.C.]	15 days before testing
	Test Report [Rule 62-297.310(8)(b), F.A.C.]	45 days after testing
	Actual Emissions Reporting [Rules 62-212.300(1)(e)]	Before March 1 - annually
EU 063	On-Site Recordkeeping [Rule 62-296.404(3)(a)3., F.A.C.]	at time of inspection
	Actual Emissions Reporting [Rules 62-212.300(1)(e)]	Before March 1 - annually
EU 070, 071, 072, 073	On-Site Recordkeeping [40 CFR 63 Subpart S]	as agreed with Administrator
	Actual Emissions Reporting [Rules 62-212.300(1)(e)]	Before March 1 - annually
EU 065	On-Site Recordkeeping [Rule 62-296.404(3)(a)3., F.A.C.]	at time of inspection
	On-Site Recordkeeping [Rule 62-204.800(11), F.A.C., and 40 CFR 63.453]	at time of inspection
EU 069	On-Site Recordkeeping [40 CFR 63 Subpart S]	at time of inspection
	On-Site Recordkeeping [40 CFR 63 Subpart RR]	at time of inspection
	Actual Emissions Reporting [Rules 62-212.300(1)(e)]	Before March 1 - annually
074	On-Site Recordkeeping [40 CFR 63.6655(e)]	at time of inspection
075	On-Site Recordkeeping [Rule 62-213.440(1), F.A.C. and 40 CFR 60.4214(b)]	at time of inspection
076	On-Site Recordkeeping [Rule 62-213.440(1), F.A.C.]	at time of inspection