



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
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TO: Interested Parties / Applicant

DATE: March 22, 2010

RE: Rolls Royce Corporation / 097 - 25529 - 00311

FROM: Matthew Stuckey, Deputy Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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Governor

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100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
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**Part 70 Operating Permit Renewal
OFFICE OF AIR QUALITY**

**Rolls Royce Corporation
Plant 8 - 2001 South Tibbs Ave.
Plant 5 - 2355 South Tibbs Ave.
Indianapolis, Indiana 46241**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T097-25529-00311	
Issued by:  Chrystal A. Wagner, Section Chief Permits Branch Office of Air Quality	Issuance Date: March 22, 2010 Expiration Date: March 22, 2015

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1, A.3 through A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary manufacturing and testing facility for aerospace engines.

Source Address: Plant 8 - 2001 South Tibbs Ave., Indianapolis, IN 46241
 Plant 5 - 2355 South Tibbs Ave., Indianapolis, IN 46241
 Mailing Address: 2355 South Tibbs Ave., Indianapolis, IN 46241
 General Source Phone Number: 317-230-2000
 SIC Code: 3724
 County Location: Marion
 Source Location Status: Nonattainment for PM_{2.5}
 Attainment for all other criteria pollutants
 Source Status: Part 70 Operating Permit Program
 Major Source, under PSD Rules and Nonattainment NSR
 Major Source, Section 112 of the Clean Air Act
 Nested Source with fossil fuel fired boilers (or combinations thereof) totaling more than two hundred fifty million (250,000,000) British thermal units per hour heat input, as 1 of 28 Source Categories

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

This aerospace engine manufacturing and testing company consists of two (2) plants:

- (a) Plant 8 is located at 2001 South Tibbs Avenue, Indianapolis, Indiana 46241; and
- (b) Plant 5 is located at 2355 South Tibbs Avenue, Indianapolis, Indiana 46241.

Since the two (2) plants are located on contiguous properties, have the same SIC code and are under common control of the same entity, they are considered one (1) source, as defined by 326 IAC 2-7-1(22). This determination was made during the issuance of the Part 70 Permit 097-7238-00311 in 2003 and has not been changed in this permitting approval.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) Six (6) boilers identified below:

EU ID	Unit Identification	MMBtu/hr	Fuels Permitted to Use	Stack	Date constructed
0070-58	Babcock & Wilcox Boiler	44	Natural Gas, Landfill Gas, No. 2, No. 4 & No. 6 fuel oil	8-3	1953
0070-59	Babcock & Wilcox Boiler	44	Natural Gas, Landfill Gas, No. 2, No. 4, & No. 6 fuel oil	8-4	1953
0070-62	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4, & No. 6 fuel oil	8-5	1969
0070-63	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4, & No. 6 fuel oil	8-6	1969

0070-64	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4, & No. 6 fuel oil	8-7	1969
0070-65	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4, & No. 6 fuel oil	8-8	1969

(b) Two (2) gas turbines identified below:

Emission Unit ID No.	Unit Identification	Maximum Capacity, MMBtu/hr	Fuels Permitted to use	Stack No.	Date Constructed or last permitted
0070-80	Gas Turbine	68	Natural Gas, Landfill gas	8-80	1999
0070-71	Gas Turbine	35	Natural Gas	8-9	1999

(c) Eight (8) paint booths identified as emission units 0070-N56a, units 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, 0070-85, and 0070-86, controlled by dry filters, exhausting out stacks identified as SN56 a, 5-10a, 5-10b, 5-10c, 5-10d, S-84, S-85, and S-86, respectively. Paint booths 0070-N56a, 0070-10a, 0070-10b, 0070-10c, and 0070-10d were installed prior to 1974 and modified in 1998 to comply with the aerospace NESHAPs. Paint booths 0070-84, 0070-85, and 0070-86 were installed in 2003.

(d) Facility-wide wipe cleaning operations.

(e) Degreasing operations, consisting of:

- (1) Two (2) Open Top Vapor Degreasers, identified as emission units 0070-13 and 0070-31, using perchloroethylene as the solvent, exhausting inside the building and reconstructed in 1997.
- (2) One (1) Open Top Vapor Degreasers, identified as emission units 0311-82 is permitted to use N-Propyl Bromide and Perchloroethylene as the solvent, exhausting inside the building and reconstructed in 2000.
- (3) Portable Cold Cleaner Degreasing Tanks, used for degreasing parts, identified as emission unit 0070-12, using mineral spirits as the solvent and exhausting into the building.
- (4) Spray cleaning booths, constructed prior to 1990, identified as emission unit 0070-14, using mineral spirits as the solvent and exhausting outside the building.
- (5) One (1) stationary enclosed parts cleaning machine, Vacuum Degreaser Model V4-EX, identified as emission unit 24087, receiving approval to construct in 2006, using only Tetrachloroethylene as the solvent, with a cleaning capacity of 1.135 cubic meters, and exhausting inside the building.

(f) Miscellaneous sand and shot Blast Machine operations identified as:

- (1) Emission unit 0070-N55, miscellaneous sanding and blasting, controlled by dust collector, exhausting out stack SN55, constructed in 1991.

(g) Woodworking operations, prior to 1969, consisting of:

- (1) Emission unit 0070-72, controlled by dust collector, exhausting out stack 8-16,
- (2) Emission unit 0070-05, controlled by dust collector, exhausting out stack 5-8.

(h) Jet fueled turbine engines, constructed in 1955, identified as follows:

- (1) Two (2) emission units identified as 0070-66, with a maximum operating capacity of 107 million British thermal units per hour each, exhausting out stacks identified as 8-11A and 8-11B;
 - (2) Twelve (12) emission units identified as 0070-67, with a maximum operating capacity of 27.2 million British thermal units per hour each, exhausting out stacks identified 8-13A through M respectively.
 - (3) Ten (10) emission units identified as 0070-68, with a maximum operating capacity of 27.2 million British thermal units per hour each, exhausting out stacks identified as 8-12A through J.
 - (4) Four (4) emission units identified as 0070-69, with a maximum operating capacity of 27.2 million British thermal per hour units each, exhausting out stacks identified as 8-14A through D.
- (i) Three (3) American Shack Heaters, identified as emission unit 0070-70, exhausting out stacks identified 8-6 A through C consisting of:
- (1) Two (2) natural gas fired heaters, identified as 0070-70A and 0070-70B, having a maximum heating input capacity of 90.0 million British thermal units per hour each; and
 - (2) One (1) natural gas fired heater, identified as 0070-70C, having a maximum heat input capacity of 90 million British thermal units per hour.
- (j) Forty-nine (49) engine test stand cells identified below. These test stand cells are used to test engines manufactured at the source. The engines tested are fueled by either Jet fuel, Diesel Oil #2, or Natural Gas. All test stand cells were constructed prior to 1977, except test stand cells Emission Unit ID 0070-87 and 0070-88 that received approval to construct in 2007. Test cell 0070-N32 (824) was approved for modification in 2008.

Engine Test Cells - Plant 5				
Emission Unit ID No.	Engine Test Cell ID	Maximum Test Cell Capacity	Type of Fuels Used	Stack ID
0070-N3	109	5000 brake horsepower	Jet fuel, Diesel	SN3
0070-N4	111	10000 pounds of thrust	Jet fuel	SN4
0070-N5	113	10000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN5
0070-N6	114	30000 pounds of thrust	Jet fuel	SN6
0070-N7	115	7000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN7
0070-N8	116	5000 brake horsepower	Jet fuel, Diesel	SN8
0070-N9	117	5000 brake horsepower	Jet fuel, Diesel	SN9
0070-N10	118	5000 brake horsepower	Jet fuel, Diesel	SN10
0070-N11	119	5000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN11
0070-N12	120	7000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN12
0070-N13	121	10000 brake horsepower	Jet fuel, Diesel	SN13

Engine Test Cells - Plant 5				
Emission Unit ID No.	Engine Test Cell ID	Maximum Test Cell Capacity	Type of Fuels Used	Stack ID
0070-N15	123	5000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN15
0070-N16	140	1500 brake horsepower	Jet fuel	SN16
0070-N17	141	750 brake horsepower	Jet fuel	SN17
0070-N18	142	800 brake horsepower	Jet fuel	SN18
0070-N19	143	750 brake horsepower	Jet fuel	SN19
0070-N20	144	750 brake horsepower	Jet fuel	SN20
0070-N21	145	750 brake horsepower	Jet fuel	SN21
0070-N22	146	1500 brake horsepower	Jet fuel	SN22
0070-N23	147	1500 brake horsepower	Jet fuel	SN23
0070-N24	148	1500 brake horsepower	Jet fuel	SN24
0070-N25	149	650 brake horsepower	Jet fuel	SN25
0070-N27	152	1500 brake horsepower	Jet fuel	SN27
0070-87	133	715 brake horsepower, with maximum fuel flow capacity of 59 gal/hr	Jet fuel	S87
0070-88	135	715 brake horsepower, with maximum fuel flow capacity of 59 gal/hr	Jet fuel	S88

Engine Test Cells - Plant 8				
Emission Unit ID	Engine Test Cell	Maximum Test Cell Capacity	Type of Fuels Used	Stack ID
0070-N34	843	10000 brake horsepower	Jet fuel	SN34(A,B)
0070-N35	861	9000 pounds of thrust	Jet fuel, Diesel	SN35
0070-N36	862	6000 brake horsepower	Jet fuel, Diesel	SN36
0070-N37	871	15000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN37(A,B)
0070-N38	872	9000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN38(A,B)
0070-N39	873	9000 brake horsepower	Jet fuel	SN39(A,B,C)
0070-N40	875	5000 brake horsepower	Diesel	SN40
0070-N41	881	10000 pounds of thrust	Jet fuel	SN41(A,B)

Engine Test Cells - Plant 8				
0070-N42	882	30000 pounds of thrust	Jet fuel	SN42(A,B,C,D,E,F)
0070-N43	883	2500 brake horsepower	Jet fuel	SN43(A,B)
0070-N44	884	2000 brake horsepower	Jet fuel	SN44
0070-N45	885	800 brake horsepower	Jet fuel, Diesel	SN45(A,B)
0070-N46	886	30000 pounds of thrust	Jet fuel, Diesel	SN46(A,B,C,D)
0070-N47	893	500 pounds of thrust	Diesel	SN47
0070-N48	894	350 brake horsepower	Diesel	SN48
0070-N29	821	10 pounds/second air	Jet fuel, Diesel & Natural Gas	SN29(A,B)
0070-N30	822	50 pounds/second air	Jet fuel, Diesel & Natural Gas	SN30(A,B)
0070-N31	823	60 pounds/second air	Jet fuel, Diesel & Natural Gas	SN31(A,B)
0070-N32	824	120 pounds/second air	Jet fuel, Diesel & Natural Gas	SN32(A,B)
0070-N33	826	25 pounds/second air	Jet fuel, Diesel	SN33(A,B)
0070-54	8137	10 pounds/second air	Jet fuel, Diesel & Natural Gas	SN54
0070-N54a	8137	12.5 MMBtu/hr	No. 2 Diesel fuel	Not Available
0070-N55	8126	0.5 pounds/second air	Jet fuel, Diesel & Natural Gas	Not Available
0070-N56	8128	1 pounds/second air	Jet fuel, Diesel & Natural Gas	Not Available

- (k) One (1) engine test cell, identified as emission unit 00311-83. The engines tested in this test cell have a operating capacity of 10,000 pounds of thrust and are fired with Jet A fuel. A maximum of six engines per day can be tested in this test cell. Emissions from this test cell are exhausted out stack 5-83 and are not controlled. This emission unit was initially constructed prior to 1970 and modified in 1999.
- (l) Rental diesel-fired generators, identified as 0070-89, permitted in 2008 and 2009, and approved for installation on an as-needed basis.

A.4 Specifically Regulated Insignificant Activities
 [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) Storage vessels, containing volatile organic liquid, identified as tank 1 through 6 and 9 through 20 at plant 5 and tanks 1 through 5 at plant 8. Each tank has a capacity greater than 40 cubic meters but less than 75 cubic meters and a construction date after July 23, 1984. [40 CFR 60, Subpart Kb]
- (b) Classified documents incinerator with a maximum rated capacity of 125 pounds per two hour cycle. [326 IAC 4-2] [326 IAC 9-1]
- (c) The following activities or categories of activities with individual HAP emissions not previously identified which have potential emissions greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP. [326 IAC 6.5-1]

- (1) Stationary and portable welding, brazing, soldering and cutting operations
- (2) Fuel and oil nozzle test stands
- (3) Penetrant test
- (4) Chemical milling and deoxidizing solution
- (5) Air stripper at waste treatment plant
- (6) Print shop operations
- (7) All plating operations
- (8) Powder coating

A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

- (a) This permit, T097-25529-00311, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain

certification by the "responsible official" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) A "responsible official" is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
 - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][326 IAC 2-7-6(1) and (6)][326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
 - (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report. Any emergencies that have been previously reported pursuant to paragraph (b)(5) of this condition and certified by the "responsible official" need only referenced by the date of the original report.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The

Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
 - (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
 - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;
 - (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and
 - (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.
- (e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).
- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

- (a) All terms and conditions of permits established prior to T097-25529-00311 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised under 326 IAC 2-7-10.5, or
 - (3) deleted under 326 IAC 2-7-10.5.

- (b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30)

days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.17 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.18 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.19 Permit Revision Under Economic Incentives and Other Programs
[326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

- (a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.
- (b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.20 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b),(c), or (e) without a prior permit revision, if each of the following conditions is met:
 - (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
 - (2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
 - (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
 - (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and
 - (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b),(c), or (e). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).
- (b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

- (1) A brief description of the change within the source;
- (2) The date on which the change will occur;
- (3) Any change in emissions; and
- (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).
- (d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.21 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.22 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.23 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.25 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

- (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.7 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.8 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

C.9 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.10 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.13 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

- (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
- (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

- (a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:
 - (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
 - (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue

MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

- (b) The emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]
[326 IAC 2-2][326 IAC 2-3]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later.
- (c) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A), 40 CFR 51.165(a)(6)(vi)(B), 40 CFR 51.166(r)(6)(vi)(a), and/or 40 CFR 51.166(r)(6)(vi)(b)) that a “project” (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a “major modification” (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:
- (1) Before beginning actual construction of the “project” (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit, document and maintain the following records:
- (A) A description of the project.
- (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.
- (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
- (i) Baseline actual emissions;
- (ii) Projected actual emissions;
- (iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1 (mm)(2)(A)(iii); and
- (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

- (d) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A) and/or 40 CFR 51.166(r)(6)(vi)(a)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:
- (1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and
 - (2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:
- Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.
- (f) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:
- (1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record

Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (xx) and/or 326 IAC 2-3-1 (qq), for that regulated NSR pollutant, and

- (2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).
- (g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:
 - (1) The name, address, and telephone number of the major stationary source.
 - (2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.
 - (3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).
 - (4) Any other information that the Permittee deems fit to include in this report.

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (h) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]					
(a) Six (6) boilers identified below:					
Emission Unit ID No.	Unit Identification	Maximum Capacity, MMBtu/hr	Fuels Permitted to Use	Stack No.	Date Constructed or Reconstructed
0070-58	Babcock & Wilcox Boiler	44	Natural Gas, Landfill Gas, No. 2, No. 4 & No. 6 fuel oil	8-3	1953
0070-59	Babcock & Wilcox Boiler	44	Natural Gas, Landfill Gas, No. 2, No. 4 & No. 6 fuel oil	8-4	1953
0070-62	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4 & No. 6 fuel oil	8-5	1969
0070-63	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4 & No. 6 fuel oil	8-6	1969
0070-64	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4 & No. 6 fuel oil	8-7	1969
0070-65	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4 & No. 6 fuel oil	8-8	1969
(b) Two (2) gas turbines identified below:					
Emission Unit ID No.	Unit Identification	Maximum Capacity, MMBtu/hr	Fuels Permitted to Use	Stack No.	Date Constructed
0070-80	Gas Turbine	68	Natural Gas, Landfill gas	8-80	1999
0070-71	Gas Turbine	35	Natural Gas	8-9	1999
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)					

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Oxides of Nitrogen (NOx) and Particulate Matter ten microns in aerodynamic diameter (PM10) emissions limits [326 IAC 2-7-5(1)] [326 IAC 2-2]

Pursuant to CP-099-0311-01, issued on June 10, 1999 and Administrative Amendment No. 097-11888-0311, issued August 17, 2000 the net increases of NOx and PM10 emissions from the modification are limited to less than the significance levels. The Permittee accepted emission limits on all units involved in the modification for NOx of 325.75 tons per year and PM10 of 130 tons per year to keep the net emissions of the modification below 40 tons per year. The following limits from CP-099-0311-01 and 097-11888-0311 apply:

(a) NOx limitations (based on all boilers and turbines, Emission Units 58, 59, 62, 63, 64, 65, 71, and 80): the input of natural gas and natural gas equivalents to the equipment covered in this permit shall be limited to less than 6205 MMCF natural gas per twelve (12) month consecutive period with compliance determined at the end of each month. This usage limitation is equivalent to a potential to emit of less than 325.74 tons per year, which keeps net emissions below 40 tons per year.

(1) For the purposes of determining compliance every million cubic feet of natural gas shall be equivalent to the following:

Natural Gas Equivalents for Nitrogen Oxide Emissions					
Emission Units	MMCF per gal #4 oil	MMCF per gal #2 oil	MMCF per MMCF landfill gas	MMCF per MMCF natural gas	MMCF per gal #6 oil
Boilers (Emission Unit ID 0070-58 and 59)	0.00023	0.00023	N.A.	N.A.	0.00048
Boilers (Emission Unit ID 0070-62, 63, 64 and 65)	N.A.	0.00023	0.31928	N.A.	0.00060
Turbine (Emission Unit ID 0070-80)	N.A.	N.A.	0.8257	3.90000	N.A.
Turbines (Emission Unit ID 0070-71)	N.A.	N.A.	0.34130	4.50000	N.A.

and

(2) NOx emissions are limited to:

- (A) Boilers (Emission Unit ID ## 0070-62, 63, 64 and 65) shall be limited to 0.1 lbs/MMBtu when burning natural gas;
- (B) Boilers (Emission Unit ID 0070- 58, 59, 62, 63, 64 and 65) shall be limited to 0.175 lbs/MMBtu when burning #2 fuel oil;
- (C) Boilers (Emission Unit ID 0070- 62, 63, 64 and 65) shall be limited to 0.058 lbs/MMBtu when burning landfill gas;
- (D) Boilers (Emission Unit ID 0070-58 and 59) shall be limited to 0.175 lbs/MMBtu when burning #4 fuel oil;

- (E) Boilers (Emission Unit ID 0070-58 and 59) shall be limited to 0.336 lbs/MMBtu when burning #6 fuel oil;
 - (F) Boilers (Emission Unit ID 0070-62, 63, 64 and 65) shall be limited to 0.447 lbs/MMBtu when burning #6 fuel oil;
 - (G) Turbines (Emission Unit ID 0070-71, and 80) shall be limited to 0.062 lbs/MMBtu when burning landfill gas.
 - (H) Turbine (Emission Unit ID 0070-80) shall be limited to 0.15 lbs/MMBtu when burning landfill gas.
 - (I) Turbine (Emission Unit ID 0070-80) are limited to 0.390 lbs/MMBtu when combusting natural gas.
 - (J) Turbine (Emission Unit ID 0070-71) is limited to 0.450 lbs/MMBtu when combusting natural gas.
- (b) PM₁₀ limitation for Emission Unit ID 0070-58, 0070-59, 0070-62, 0070-63, 0070-64, 0070-65, 0070-71, and 0070-80: the input of No.4 oil and No. 4 oil equivalents shall be limited to 37,142,800 gallons of No.4 oil per twelve (12) month consecutive period with compliance determined at the end of each month.
- (1) For the purposes of determining compliance every gallon of No.4 oil shall be equivalent to the following:

Fuel Oil Equivalents for PM-10 Emissions				
Emission Units	gal per gal #2 oil	gal per CF landfill gas	gal per CF natural gas	gal per gal #6 oil
Boilers (Emission Unit ID 0070-62, 63, 64 and 65)	0.280	0.00116	0.00088	2.60
Boilers (Emission Unit ID 0070- 58, 59)	0.280	N.A.	0.00088	2.60
Turbine (Emission Unit ID 0070-80)	N.A.	0.00132	0.00088	N.A.

and

- (2) PM10 emissions are limited to:
- (A) Boilers (Emission Unit ID 0070-62, 63, 64 and 65) shall be limited to 0.014 lbs/MMBtu when combusting landfill gas; and
 - (B) Turbine (Emission Unit ID 0070-80) shall be limited to 0.016 lbs/MMBtu when combusting landfill gas

D.1.2 Particulate Matter Limitations Except Lake County [326 IAC 6.5-6]

- (a) Pursuant to 326 IAC 6.5-6-33 (Particulate Matter Limitations Marion County: Rolls Royce Corporation), the Permittee shall comply with the following emission limitations for Particulate Matter (PM):

Source Rolls Royce Corporation	NEDS Plant ID	Point Input ID	Process	Emission Limits	
				tons per year	Lbs/million Btu
	0311	02	Boilers 0070-58 and 0070-59	130.0/yr	0.15
	0311	03	Boilers 0070-62 thru 0070-65		0.15

- (b) Pursuant to 326 IAC 6.5-6-33(b), the Permittee shall comply with the following:
- (1) Boilers 0070-58, 0070-59, and 0070-62 thru 0070-65 shall use only #6 fuel oil, #4 fuel oil, #2 fuel oil, natural gas or landfill gas as fuel.
 - (2) Boilers 0070-58, 0070-59, and 0070-62 thru 0070-65 shall have the following limitations depending upon the fuel being used:
 - (A) When using #4 fuel oil, the amount used for the listed boilers collectively shall not exceed thirty-seven million one hundred forty-two thousand eight hundred (37,142,800) gallons per year based on a three hundred sixty-five (365) day rolling figure.
 - (B) When either #6 fuel oil, #2 fuel oil, natural gas or land fill gas is used, the limitation listed in clause (A) shall be adjusted as follows:
 - (i) When using #6 fuel oil, the gallons per year of #4 fuel oil shall be reduced by two and six-tenths (2.6) gallon used.
 - (ii) When using natural gas, the gallons per year of #4 fuel oil shall be reduced by eighty-eight hundred-thousandths (0.00088) gallon per cubic foot of natural gas burned.
 - (iii) When using #2 fuel oil, the gallons per year of #4 fuel oil shall be reduced by twenty-eight hundredths (0.28) gallon per gallon used.
 - (iv) When using landfill gas, the gallons per year of #4 fuel oil shall be reduced by one hundred sixteen hundred thousandths (0.00116) gallon per cubic foot of landfill gas burned.

D.1.3 PM Emissions Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2(Particulate Limitations), particulate matter (PM) emissions from emission units 0070-71, 0070-76, 0070-79, 0070-80 and 0070-81 shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

D.1.4 Marion County Sulfur Dioxide Emission Limitations [326 IAC 7-4-2]

- (a) Pursuant to 326 IAC 7-4-2(28), the sulfur dioxide emissions from Boilers 0070-58, 0070-59, and 0070-62 thru 0070-65 shall be limited as follows:
- (1) Boilers 0070-58, 0070-59, and 0070-62 thru 0070-65 shall be allowed to burn Natural gas at any time.
 - (2) Babcock and Wilcox 0070-58 and 0070-59 and Combustion Engineering Boilers 0070-62 thru 0070-65 shall burn fuel oil with a sulfur content of two and one tenths (2.1) pounds per million Btu during periods when one of the following conditions are met:
 - (A) Fuel oil is burned in no more than three (3) Babcock and Wilcox Boilers and fuel oil is not burned in any Combustion Engineering Boilers.
 - (B) Fuel oil is burned in no more than two (2) Babcock and Wilcox Boilers and no more than two (2) Combustion Engineering Boilers
 - (C) Fuel oil is burned in no more than one (1) Babcock and Wilcox Boilers and no more than three (3) Combustion Engineering Boilers.

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for emission units 0070-58, 0070-59, and 0070-62 through 0070-65 when burning fuel oil.

Compliance Determination Requirements

D.1.6 Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3-6] [326 IAC 3-7-4] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-2-1 and 326 IAC 3-7-4 or 326 IAC 3-6, the Permittee shall demonstrate that the sulfur dioxide emissions from boilers 0070-58, 0070-59, and 0070-62 thru 0070-65 do not exceed the pounds per million Btu heat input limits in condition D.1.4. Compliance shall be determined utilizing one of the following options.

- (a) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;
- (b) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (1) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (2) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (c) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from 0070-58, 0070-59, and 0070-62 thru 0070-65, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a), (b), or (c) above shall not be refuted by evidence of compliance pursuant to the other method.

D.1.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

- (a) Within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform NOx testing utilizing methods approved by the Commissioner:
- (1) emission units 0070-and 0070-81ombusting landfill gas, and
 - (2) emission units 0070-71, and 0070-80, shall be tested when combusting natural gas.

Testing shall be conducted in accordance with Section C - Performance Testing.

- (b) Within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM-10 testing utilizing methods approved by the Commissioner as follows:
- (1) emission unit 0070-62 when combusting landfill gas.

PM-10 includes filterable and condensable PM-10. Testing shall be conducted in accordance with Section C - Performance Testing.

- (c) After the initial performance tests outlined in (a) and (b), this permit does not require the Permittee to perform repetitive testing on these units. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and/or NOx limits specified in this permit shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.8 PM, PM-10, and NOx Emissions

Compliance with Condition D.1.1 and D.1.2 shall be demonstrated within 30 days of the end of each month based on the amount of fuel combusted for the most recent 365 day period.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.9 Visible Emissions Notations

- (a) Visible emission notations of the emission units 0070-58, 0070-59, 0070-62, 0070-63, 0070-64 and 0070-65 stack exhausts shall be performed once per day during normal daylight operations when burning fuel oil and hazardous waste. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take

response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.10 Record Keeping Requirements

- (a) To document compliance with condition D.1.2, the Permittee shall maintain records of the day and quantity of each type of fuel used in boilers, identified as emission units 0070-58, 0070-59, 0070-62, 0070-63, 0070-64, and 0070-65, and its #4 fuel oil equivalence for PM.
- (b) To document compliance with Condition D.1.4 and D.1.6, the Permittee shall maintain records in accordance with (1) through (6) below.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;
 - (3) To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used.

If the fuel supplier certification is used to demonstrate compliance, when burning alternate fuels and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:

- (4) Fuel supplier certifications;
- (5) The name of the fuel supplier; and
- (6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (c) To document compliance with condition D.1.1, the Permittee shall maintain records of the day, amount and type of fuel combusted in emission units 0070-58, 0070-59, 0070-62, 0070-63, 0070-64 and 0070-65 and the natural gas equivalence for NO_x and PM₁₀.
- (d) To document compliance with Condition D.1.9, the Permittee shall maintain records of daily visible emission notations of the stack exhaust for emission units 0070-58, 0070-59, 0070-62, 0070-63, 0070-64, and 0070-65 when combusting fuel oil once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.11 Reporting Requirements

- (a) The natural gas and landfill gas boiler certification shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or its equivalent, within thirty (30) days after the end of the six (6) month period being reported. The natural gas and landfill gas fired boiler certification does require the certification by the responsible official as defined by 326 IAC 2-7-1(34).

- (b) A quarterly summary of the information to document compliance with conditions D.1.1, D.1.2, and D.1.4, shall be submitted to the addresses listed in Section C - General Reporting Requirements of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (c) Seven (7) paint booths identified as emission units 0070-N56a, 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, and 0070-85, controlled by dry filters, exhausting out stacks identified as SN56a, 5-10a, 5-10b, 5-10c, 5-10d, S-84, and S-85, respectively. Paint booths 0070-N56a, 0070-10a, 0070-10b, 0070-10c, and 0070-10d were installed prior to 1974 and modified in 1998 to comply with the aerospace NESHAPs. Paint booths 0070-84 and 0070-85 were installed in 2003.
- (d) Facility-wide wipe cleaning operations.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 VOC Emissions [326 IAC 8-1-1]

Pursuant to 326 IAC 8-1-1(b), the actual emissions of volatile organic compounds (VOC) from each paint booth identified as, 0070-N56a, 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, and 0070-85 shall be limited to less than 15.0 pounds of VOCs per day before add-on controls.

Compliance with this condition shall make the Miscellaneous Metal Parts Rule 326 IAC 8-2-9 not applicable.

D.2.2 Particulate Matter [326 IAC 6.5-1-2(a)]

Pursuant to 326 IAC 6.5-1-2(a), the particulate matter (PM) emissions from each paint booth, identified as emission units 0070-56Na, 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, and 0070-85, shall not exceed 0.03 grains per dry standard cubic foot of exhaust air.

D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for emission units 0070-N56a, 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, and 0070-85.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.4 Record Keeping Requirements

- (a) To document compliance with Condition D.2.1, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken daily and shall be complete and sufficient to establish compliance with Condition D.2.1.
- (1) The VOC content of each coating material and solvent used.
- (2) The amount of coating material and solvent less water used on a daily basis.
- (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
- (B) Solvent usage records shall differentiate between those added to coating and those used as cleanup solvents.

- (3) The weight of VOCs input each day.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (e) Degreasing operations, consisting of:
- (1) Two (2) Open Top Vapor Degreasers, identified as emission units 0070-13 and 0070-31, using perchloroethylene as the solvent, reconstructed in 1997.
 - (2) One (1) Open Top Vapor Degreasers, identified as emission units 0311-82 is permitted to use N-Propyl Bromide and Perchloroethylene as the solvent, reconstructed in 2000.
 - (3) Portable Cold Cleaner Degreasing Tanks, used for degreasing parts, identified as emission unit 0070-12, using mineral spirits as the solvent exhausting into the building.
 - (4) Spray cleaning booths, constructed prior to 1990, identified as emission unit 0070-14, using mineral spirits as the solvent and exhausting outside the building.
 - (5) One (1) stationary enclosed parts cleaning machine, Vacuum Degreaser Model V4-EX, identified as emission unit 24087, receiving approval to construct in 2006, using only Tetrachloroethylene as the solvent, with a cleaning capacity of 1.135 cubic meters, and exhausting inside the building.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

D.3.1 Degreasing Operations [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the Permittee shall ensure that the following control equipment requirements are met, unless more stringent requirements are applicable under 326 IAC 8-3-5 or 326 IAC 20-6 and 40 CFR 63 Subpart T:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.3.2 Degreasing Operations [326 IAC 8-3-3]

Pursuant to 326 IAC 8-3-3 (Open Top Vapor Degreasing Operations) the Permittee shall ensure that the following control equipment requirements are met, unless more stringent requirements are applicable under 326 IAC 8-3-6 or 326 IAC 20-6 and 40 CFR 63 Subpart T:

- (a) Equip the open top vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone;
- (b) Keep the cover closed at all times except when processing workloads through the degreaser;
- (c) Minimize solvent carry-out by:
 - (1) Racking parts to allow complete drainage;
 - (2) Moving parts in and out of the degreaser at less than eleven (11) feet per minute;
 - (3) Degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;
 - (4) Tipping out any pools of solvent on the cleaned parts before removal;
 - (5) Allowing parts to dry within the degreaser for at least fifteen (15) seconds or until visually dry;
- (d) Not degrease porous or absorbent materials, such as cloth, leather, wood or rope;
- (e) Not occupy more than half of the degreaser's open top area with the workload;
- (f) Not load the degreaser such that the vapor level drops more than fifty percent (50%) of the vapor depth when the workload is removed;
- (g) Never spray above the vapor level;
- (h) Repair solvent leaks immediately, or shut down the degreaser;
- (i) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;
- (j) Not use workplace fans near the degreaser opening;
- (k) Not allow visually detectable water in the solvent exiting the water separator; and
- (l) Provide a permanent, conspicuous label summarizing the operating requirements.

D.3.3 Degreasing Operations [326 IAC 8-3-5]

Pursuant to 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control) the Permittee shall ensure the following requirements are met, unless more stringent requirements are applicable under 326 IAC 8-3-2:

- (a) The Permittee shall ensure that the following operating requirements are met:
 - (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38^oC) (one hundred degrees Fahrenheit (100^oF));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.

- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) The owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

D.3.4 Degreasing Operations [326 IAC 8-3-6]

Pursuant to 326 IAC 8-3-6 (Open top vapor degreaser operation and control requirements), for open top vapor degreasers existing as of July 1, 1990, emission units 0070-13, 0070-31, and 0311-82 the Permittee shall ensure that the following control equipment requirements are met:

- (a) The Permittee shall ensure that the following control equipment requirements are met:
 - (1) Equip the degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.
 - (2) Equip the degreaser with the following switches:

- (A) A condenser flow switch and thermostat which shuts off sump heat if condenser coolant stops circulating or becomes too warm.
- (B) A spray safety switch which shuts off spray pump if the vapor level drops more than ten (10) centimeters (four (4) inches).
- (3) Equip the degreaser with a permanent, conspicuous label which lists the operating requirements.
- (4) Equip the degreaser with one (1) of the following control devices:
 - (A) A freeboard ratio of seventy-five hundredths (0.75) or greater and a powered cover if the degreaser opening is greater than one (1) square meter (ten and eight-tenths (10.8) square feet).
 - (B) A refrigerated chiller.
 - (C) An enclosed design in which the cover opens only when the article is actually entering or exiting the degreaser.
 - (D) A carbon adsorption system with ventilation which, with the cover open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air to vapor interface area and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.
 - (E) Other systems of demonstrated equivalent or better control as those outlined in clauses (A) through (D). Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) The Permittee shall ensure that the following operating requirements are met:
 - (1) Keep the cover closed at all times except when processing workloads through the degreaser.
 - (2) Minimize solvent carryout emissions by:
 - (A) Racking articles to allow complete drainage;
 - (B) Moving articles in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);
 - (C) Degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;
 - (D) Tipping out any pools of solvent on the cleaned articles before removal; and
 - (E) Allowing articles to dry within the degreaser for at least fifteen (15) seconds or until visually dry.

- (3) Prohibit the entrance into the degreaser of porous or absorbent materials such as, but not limited to, cloth, leather, wood, or rope.
- (4) Prohibit occupation of more than one-half (1/2) of the degreaser's open top area with the workload.
- (5) Prohibit the loading of the degreaser to the point where the vapor level would drop more than ten (10) centimeters (four (4) inches) when the workload is removed.
- (6) Prohibit solvent spraying above the vapor level.
- (7) Repair solvent leaks immediately or shut down the degreaser if leaks cannot be repaired immediately.
- (8) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
- (9) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser open area unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.
- (10) Prohibit the use of workplace fans near the degreaser opening.
- (11) Prohibit visually detectable water in the solvent exiting the water separator.

SECTION D.4

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (f) Miscellaneous sand and shot blast machine operations identified as:
 - (1) Emission unit 0070-N55, miscellaneous sanding and blasting, controlled by dust collector, exhausting out stack SN55, constructed in 1991.
- (g) Woodworking operations, prior to 1969, consisting of:
 - (1) Emission unit 0070-72, controlled by dust collector, exhausting out stack 8-16,
 - (2) Emission unit 0070-05, controlled by dust collector, exhausting out stack 5-8.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Matter (PM) [326 IAC 6.5-1-2(a)]

Pursuant to 326 IAC 6.5-1-2(a) (formerly 326 IAC 6-1-2(a)), particulate matter (PM) emissions from emission units 0070-05, 0070-72, and 0070-N55 shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (h) Jet fueled turbine engines, constructed in 1955, identified as follows:
 - (1) Two (2) emission units identified as 0070-66, with a maximum operating capacity of 107 million British thermal units per hour each, exhausting out stacks identified as 8-11A and 8-11B;
 - (2) Twelve (12) emission units identified as 0070-67, with a maximum operating capacity of 27.2 million British thermal units per hour each, exhausting out stacks identified 8-13A through M respectively.
 - (3) Ten (10) emission units identified as 0070-68, with a maximum operating capacity of 27.2 million British thermal units per hour each, exhausting out stacks identified as 8-12A through J.
 - (4) Four (4) emission units identified as 0070-69, with a maximum operating capacity of 27.2 million British thermal per hour units each, exhausting out stacks identified as 8-14A through D.

- (i) Three (3) American Shack Heaters, identified as emission unit 0070-70, exhausting out stacks identified 8-6A through C consisting of:
 - (1) Two (2) natural gas fired heaters, identified as 0070-70A and 0070-70B, having a maximum heating put capacity of 90.0 million British thermal units per hour each; and
 - (2) One (1) natural gas fired heater, identified as 0070-70C, having a maximum heat input capacity of 90 million British thermal units per hour.

- (j) Forty-nine (49) Engine Test Stand Cells identified below. These test stand cells are used to test engines manufactured at the source. The engines tested are fueled by either Jet fuel, Diesel #2 or Natural Gas. All test stand cells except 0070-87 and 0070-88 were constructed prior to 1977; test stand cells 0070-87 and 0070-88 received approval to construct in 2007.

Emission Unit ID No.(s)	Engine Test Cell ID No.(s)	Maximum Test Cell Capacity	Type of Fuels Used	Stack ID No.
Engine Test Cells - Plant 5				
0070-N3	109	5000 brake horsepower	Jet fuel, Diesel	SN3
0070-N4	111	10000 pounds of thrust	Jet fuel	SN4

Facility Description [326 IAC 2-7-5(15)] (j) (Continued from previous page)

Emission Unit ID No.(s)	Engine Test Cell ID No.(s)	Maximum Test Cell Capacity	Type of Fuels Used	Stack ID No.
0070-N5	113	10000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN5
0070-N6	114	30000 pounds of thrust	Jet fuel	SN6
0070-N7	115	7000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN7
0070-N8	116	5000 brake horsepower	Jet fuel, Diesel	SN8
0070-N9	117	5000 brake horsepower	Jet fuel, Diesel	SN9
0070-N10	118	5000 brake horsepower	Jet fuel, Diesel	SN10
0070-N11	119	5000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN11
0070-N12	120	7000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN12
0070-N13	121	10000 brake horsepower	Jet fuel, Diesel	SN13
0070-N15	123	5000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN15
0070-N16	140	1500 brake horsepower	Jet fuel	SN16
0070-N17	141	750 brake horsepower	Jet fuel	SN17
0070-N18	142	800 brake horsepower	Jet fuel	SN18
0070-N19	143	750 brake horsepower	Jet fuel	SN19
0070-N20	144	750 brake horsepower	Jet fuel	SN20
0070-N21	145	750 brake horsepower	Jet fuel	SN21
0070-N22	146	1500 brake horsepower	Jet fuel	SN22
0070-N23	147	1500 brake horsepower	Jet fuel	SN23
0070-N24	148	1500 brake horsepower	Jet fuel	SN24
0070-N25	149	650 brake horsepower	Jet fuel	SN25
0070-N27	152	1500 brake horsepower	Jet fuel	SN27
0070-87	133	715 brake horsepower, with maximum fuel flow capacity of 59 gal/hr	Jet fuel	SN24
0070-88	135	715 brake horsepower, with maximum fuel flow capacity of 59 gal/hr	Jet fuel	SN25

Facility Description [326 IAC 2-7-5(15)] (j) (Continued from previous page)

Emission Unit ID No.(s)	Engine Test Cell ID No.(s)	Maximum Test Cell Capacity	Type of Fuels Used	Stack ID No.
Engine Test Cells Plant 8				
0070-N34	843	10000 brake horsepower	Jet fuel	SN34(A, B)
0070-N35	861	9000 pounds of thrust	Jet fuel, Diesel	SN35
0070-N36	862	6000 brake horsepower	Jet fuel, Diesel	SN36
0070-N37	871	15000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN37(A, B)
0070-N38	872	9000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN38(A, B)
0070-N39	873	9000 brake horsepower	Jet fuel	SN39(A, B, C)
0070-N40	875	5000 brake horsepower	Diesel	SN40
0070-N41	881	10000 pounds of thrust	Jet fuel	SN41(A, B)
0070-N42	882	30000 pounds of thrust	Jet fuel	SN42 (A, B, C, D, E, F)
0070-N43	883	2500 brake horsepower	Jet fuel	SN43(A, B)
0070-N44	884	2000 brake horsepower	Jet fuel	SN44
0070-N45	885	800 brake horsepower	Jet fuel, Diesel	SN45(A, B)
0070-N46	886	30000 pounds of thrust	Jet fuel, Diesel	SN46 (A, B, C, D)
0070-N47	893	500 pounds of thrust	Diesel	SN47
0070-N48	894	350 brake horsepower	Diesel	SN48
0070-N29	821	10 pounds/second air	Jet fuel, Diesel & Natural Gas	SN29 (A, B)
0070-N30	822	50 pounds/second air	Jet fuel, Diesel & Natural Gas	SN30(A, B)
0070-N31	823	60 pounds/second air	Jet fuel, Diesel & Natural Gas	SN31(A,

				B)
0070-N32	824	120 pounds/second air	Jet fuel, Diesel & Natural Gas	SN32(A,B)
0070-N33	826	25 pounds/second air	Jet fuel, Diesel	SN33(A, B)
0070-N54	8137	10 pounds/second air	Jet fuel, Diesel & Natural Gas	SN54
0070-N54a	8137	12.5 MMBtu/hr	No. 2 Diesel fuel	Not Available
0070-N55	8126	0.5 pounds/second air	Jet fuel, Diesel & Natural Gas	Not Available
0070-N56	8128	1 pounds/second air	Jet fuel, Diesel & Natural Gas	Not Available

- (k) One (1) engine test cell, identified as emission unit 00311-83. The engines tested in this test cell have a operating capacity of 10,000 pounds of thrust and are fired with Jet A fuel. A maximum of six engines per day can be tested in this test cell. Emissions from this test cell are exhausted out stack 5-83 and are not controlled. This emission unit was initially constructed prior to 1970 and modified in 1999.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Particulate Matter Limitations Except Lake County [326 IAC 6.5-1-2(a)]

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Limitations), particulate matter (PM) emissions from emission units 0070-66, 0070-67, 0070-68, 0070-69, 0070-70a, 0070-70b, 0070-70c, 0070-N3 through 0070-N54, 0070-87, 0070-88, and 00311-83 shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

D.5.2 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-2(a)]

Pursuant to 326 IAC 7-1.1-2(a) (SO₂ Emissions Limitations) the SO₂ emissions from emission units 0070-70c, 0070-N3 through 0070-N54, 00311-83, 0070-87 and 0070-88 shall not exceed five tenths (0.5) pounds per MMBtu heat input, when combusting distillate oil alone or simultaneous with any permitted fuel.

D.5.3 PSD Minor NO_x Limit [326 IAC 2-2]

- (a) Pursuant to Part 70 Significant Source Modification issued December 28, 1999, the NO_x emissions from the Test Cell 00311-83 shall not exceed 0.1409 pounds per gallon or 62 pounds per hour and shall combust less than 567,779 gallons of Jet A fuel per twelve (12) month period with compliance determined at the end of each month. This fuel usage limitation is equivalent to 40 tons of NO_x emissions per twelve (12) consecutive month period. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.
- (b) Pursuant to Part 70 Significant Source Modification 097-26350-00311, the NO_x emissions from the test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B) shall be limited to:
- (1) The NO_x emission rate from test cell 824, identified as 0070-N32, shall not exceed 0.40 pounds per gallon of diesel/jet fuel combusted or an emission rate determined from the most recent emissions test.

- (2) The NOx emission rate from test cell 824, identified as 0070-N32, shall not exceed 4,284 pounds per million cubic feet (lb/MMCF) of natural gas combusted or an emission rate determined from the most recent emissions test.
- (3) The NOx emission rate from the two natural gas shack heaters, identified as 0070-70A and 0070-70B, shall not exceed 100 pounds per million cubic feet (lb/MMCF).
- (4) The combined total NOx emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 40 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from this modification is less than 40 tons of NOx per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

D.5.4 PSD Minor PM Limit [326 IAC 2-2]

Pursuant to Part 70 Significant Source Modification 097-26350-00311, the PM emissions from the test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B) shall be limited to:

- (a) The PM emission rate from test cell 824, identified as 0070-N32, shall not exceed 0.01 pound per gallon of diesel/jet fuel combusted.
- (b) The PM emission rate from test cell 824, identified as 0070-N32, shall not exceed 10.4 pounds per million cubic feet (lb/MMCF) of natural gas combusted.
- (c) The PM emission rate from the two natural gas shack heaters, identified as 0070-70A and 0070-70B, shall not exceed 1.9 pounds per million cubic feet (lb/MMCF).
- (d) The combined total PM emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 25 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from this modification is less than 25 tons of PM per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

D.5.5 PSD Minor PM₁₀ Limit[326 IAC 2-2] and Nonattainment NSR Minor PM_{2.5} Limit[326 IAC 2-1.1-5]

Pursuant to Part 70 Significant Source Modification 097-26350-00311, issued on August 22, 2008, the PM₁₀ and PM_{2.5} emissions from the test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B) shall be limited to:

- (a) The PM₁₀ and PM_{2.5} emission rates from test cell 824, identified as 0070-N32, shall each not exceed 0.01 pounds per gallon of diesel/jet fuel combusted.
- (b) The PM₁₀ and PM_{2.5} emission rates from test cell 824, identified as 0070-N32, shall each not exceed 0.081 pounds per million cubic feet (lb/MMCF) of natural gas combusted.
- (c) The PM₁₀ and PM_{2.5} emission rates from the two natural gas shack heaters, identified as 0070-70A and 0070-70B, shall each not exceed 7.6 pounds per million cubic feet (lb/MMCF).
- (d) The combined total PM₁₀ emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less

than 15 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

- (e) The combined total PM_{2.5} emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 10 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from this modification is less than 15 tons per year of PM₁₀ and 10 tons per year of PM_{2.5} and therefore will render the requirements of 326 IAC 2-2 and 326 IAC 2-1.1-5 not applicable.

D.5.6 PSD Minor SO₂ Limit [326 IAC 2-2]

Pursuant to Part 70 Significant Source Modification 097-26350-00311, issued on August 22, 2008, the SO₂ emissions from the test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B) shall be limited to:

- (a) The SO₂ emission rate from test cell 824, identified as 0070-N32, shall not exceed 0.07 pound per gal of diesel/jet fuel combusted.
- (b) The SO₂ emission rate from test cell 824, identified as 0070-N32, shall not exceed 0.617 pounds per million cubic feet (lb/MMCF) of natural gas combusted.
- (c) The SO₂ emission rate from the two natural gas shack heaters, identified as 0070-70A and 0070-70B, shall not exceed 0.6 pound per million cubic feet (lb/MMCF).
- (d) The combined total SO₂ emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 40 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from this modification is less than 40 tons of SO₂ per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

D.5.7 PSD Minor CO Limit [326 IAC 2-2]

Pursuant to Part 70 Significant Source Modification 097-26350-00311, issued on August 22, 2008, the CO emissions from the test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B) shall be limited to:

- (a) The CO emission rate from test cell 824, identified as 0070-N32, shall not exceed 1.21 pounds per gallon diesel/jet fuel combusted or an emission rate determined from the most recent emissions test.
- (b) The CO emission rate from test cell 824, identified as 0070-N32, shall not exceed 332.9 pounds per million cubic feet (lb/MMCF) of natural gas combusted or an emission rate determined from the most recent emissions test.
- (c) The CO emission rate from the two natural gas shack heaters, identified as 0070-70A and 0070-70B, shall not exceed 84 pounds per million cubic feet (lb/MMCF).
- (d) The combined total CO emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 100 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from this modification is less than 100 tons of CO per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

D.5.8 PSD Minor VOC Limit [326 IAC 2-2]

Pursuant to Part 70 Significant Source Modification 097-26350-00311, issued on August 22, 2008, the VOC emissions from the test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B) shall be limited to:

- (a) The VOC emission rate from test cell 824, identified as 0070-N32, shall not exceed 0.21 pounds per gallon diesel/jet fuel combusted or an emission rate determined from the most recent emissions test.
- (b) The VOC emission rate from test cell 824, identified as 0070-N32, shall not exceed 123.9 pounds per million cubic feet (lb/MMCF) of natural gas combusted or an emission rate determined from the most recent emissions test.
- (c) The VOC emission rate from the two natural gas shack heaters, identified as 0070-70A and 0070-70B, shall not exceed 5.5 pounds per million cubic feet (lb/MMCF).
- (d) The combined total VOC emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 40 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit is less than 40 tons of VOC per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

D.5.9 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6, the VOC emission rate from test cell 824 (0070-N32) shall be limited to 0.21 pounds of VOC per gallon (lb/gal) of diesel/jet fuel combusted or an emission rate determined from the most recent emissions test.

Compliance with this limit will limit the VOC emissions from test cell 0070-N32 to less than 25 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Therefore, 326 IAC 8-1-6 does not apply.

Compliance Determination Requirements

D.5.10 Sulfur Dioxide Emissions and Sulfur Content

Compliance with Conditions D.5.2 shall be determined utilizing one of the following options:

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the fuel oil sulfur content does not exceed five-tenths percent (0.5%) by weight by:
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a certification;
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling; or

- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the thirteen (13) MMBtu per hour heater, fifty one (51) Engine test stand cells identified as emission units 0070-N3 through 0070-N54, Test Cell 00311-83, and test cells 0070-87 and 0070-88, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to either of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

D.5.11 Particulate Emissions (PM), Particulate Emissions less than 10 microns (PM10), Carbon Monoxide (CO), Volatile Organic Compounds (VOC), and Nitrogen Oxides (NO_x) Emissions

- (a) Compliance with Condition D.5.3(b) shall be determined by the following equation:

$$E_{NO_x} = \sum E_{DOS}$$

$$E_{DOS} = ((G_{\text{diesel/jet fuel}} \times A) + (CF_{\text{natural gas}} \times D) + (C_{SH} \times 100)) / 2000$$

Where:

E_{NO_x} = Emissions of NO_x in tons per month

E_{DOS} = Emissions of NO_x in tons per month at each different operating scenario

A = 0.40 or emission rate determined from most recent emissions test in pounds per gallon

D = 4,284 or emission rate determined from most recent emissions test in pounds per million cubic feet

$G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32

$CF_{\text{natural gas}}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32

C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (b) Compliance with Condition D.5.4 shall be determined by the following equation:

$$E_{PM} = ((G_{\text{diesel/jet fuel}} \times 0.01) + (CF_{\text{natural gas}} \times 10.4) + (C_{SH} \times 1.9)) / 2000$$

Where:

E_{PM} = Emissions of PM in tons per month

$G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32

$CF_{\text{natural gas}}$ = million cubic feet of natural gas used each month in test cell 0070-N32

C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (c) Compliance with Condition D.5.5(d) shall be determined by the following equation:

$$E_{PM10} = ((G_{\text{diesel/jet fuel}} \times 0.01) + (CF_{\text{natural gas}} \times .081) + (C_{SH} \times 7.6)) / 2000$$

Where:

E_{PM10} = Emissions of PM10 in tons per month

$G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32

$CF_{\text{natural gas}}$ = million cubic feet of natural gas used each month in test cell 0070-N32

C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (d) Compliance with Condition D.5.5(e) shall be determined by the following equation:

$$E_{PM2.5} = ((G_{\text{diesel/jet fuel}} \times 0.01) + (CF_{\text{natural gas}} \times .081) + (C_{SH} \times 7.6)) / 2000$$

Where:

$E_{PM2.5}$ = Emissions of PM2.5 in tons per month
 $G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32
 $CF_{\text{natural gas}}$ = million cubic feet of natural gas used each month in test cell 0070-N32
 C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (e) Compliance with Condition D.5.6 shall be determined by the following equation:

$$E_{SO2} = ((G_{\text{diesel/jet fuel}} \times 0.07) + (CF_{\text{natural gas}} \times 0.617) + (C_{SH} \times 0.6)) / 2000$$

Where:

E_{SO2} = Emissions of SO₂ in tons per month
 $G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32
 $CF_{\text{natural gas}}$ = million cubic feet of natural gas used each month in test cell 0070-N32
 C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (f) Compliance with Condition D.5.7 shall be determined by the following equation:

$$E_{CO} = \sum E_{DOS}$$

$$E_{DOS} = ((G_{\text{diesel/jet fuel}} \times C) + (CF_{\text{natural gas}} \times E) + (C_{SH} \times 84)) / 2000$$

Where:

E_{CO} = Emissions of CO in tons per month
 E_{DOS} = Emissions of CO in tons per month at each different operating scenario
 C = 1.21 or emission rate determined from most recent emissions test in pounds per gallon
 E = 332.9 or emission rate determined from most recent emissions test in pounds per million cubic feet
 $G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32
 $CF_{\text{natural gas}}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32
 C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (g) Compliance with Condition D.5.8 shall be determined by the following equation:

$$E_{VOC} = \sum E_{DOS}$$

$$E_{DOS} = ((G_{\text{diesel/jet fuel}} \times B) + (CF_{\text{natural gas}} \times F) + (C_{SH} \times 5.5)) / 2000$$

Where:

E_{VOC} = Emissions of VOC in tons per month
 E_{DOS} = Emissions of VOC in tons per month at each different operating scenario
 B = 0.21 or emission rate determined from most recent emissions test in pounds per gallon

F = 123.9 or emission rate determined from most recent emissions test in pounds per million cubic feet

$G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32

$CF_{\text{natural gas}}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32

C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (h) Compliance with Condition D.5.9 shall be determined by the following equation:

$$E_{\text{VOC}} = \sum E_{\text{DOS}}$$

$$E_{\text{DOS}} = ((G_{\text{diesel/jet fuel}} \times B) + (CF_{\text{natural gas}} \times F)) / 2000$$

Where:

E_{VOC} = Emissions of VOC in tons per month

E_{DOS} = Emissions of VOC in tons per month at each different operating scenario

B = 0.21 or emission rate determined from most recent emissions test in pounds per gallon

F = 123.9 or emission rate determined from most recent emissions test in pounds per million cubic feet

$G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32

$CF_{\text{natural gas}}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32

D.5.12 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

- (a) To demonstrate compliance with condition D.5.3, D.5.7, D.5.8, and D.5.9, the Permittee shall perform NOx, CO, and VOC testing for each operating scenario within 60 days after startup but no later than 180 days after initial startup on test cell (0070-N32), when combusting diesel/jet fuel and natural gas (unless the Permittee chooses to use emission factors established in the permit) using methods as approved by the Commissioner.
- (b) If utilizing a different size engine other than the one tested in subsection (a), in order to demonstrate compliance with condition D.5.3, D.5.7, D.5.8, and D.5.9, the Permittee shall perform NOx, CO, and VOC testing for each operating scenario for the new engine within 60 days after startup of the new engine on test cell (0070-N32), when combusting diesel/jet fuel and natural gas (unless the Permittee chooses to use emission factors established in the permit) using methods as approved by the Commissioner.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.13 Record Keeping Requirements

- (a) To document compliance with condition D.5.3, the Permittee shall maintain records of the amount of Jet A fuel combusted in Test Cell 00311-83 on a monthly basis.
- (b) To document compliance with Conditions D.5.2 and D.5.10, the Permittee shall maintain records in accordance with (1) through (6) below:
- (1) Calendar dates covered in the compliance determination period;
 - (2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;

- (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period;

If the fuel supplier certification is used to demonstrate compliance, the following, as a minimum, shall be maintained:

- (4) Fuel supplier certifications;
 - (5) The name of the fuel supplier; and
 - (6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.
- (c) The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.
 - (d) To document compliance with Condition D.5.3(b), D.5.4, D.5.5, D.5.6, D.5.7 and D.5.8, the Permittee shall maintain monthly records of the usage of jet fuel, diesel fuel, and natural gas by test cell 824 (0070-N32) for each engine operating scenario tested and the usage of natural gas to the two (2) shack heaters (0070-70A and 0070-70B).
 - (e) To document compliance with Condition D.5.9, the Permittee shall maintain monthly records of the usage of jet fuel, diesel fuel, and natural gas used by test cell 824 (0070-N32) for each engine operating scenario tested.
 - (f) To document compliance with Conditions D.5.3(b), D.5.4, D.5.5, D.5.6, D.5.7, D.5.8 and D.5.9, the Permittee shall maintain records of the monthly emissions as required by Conditions D.5.3(b)(4), D.5.4(d), D.5.5(d), D.5.6(d), D.5.7(d), D. 5.8(d), and D.5.9(b).
 - (g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.5.14 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.5.3 through D.5.9 shall be submitted to the addresses listed in Section C - General Reporting Requirements of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the period being reported.

SECTION D.6

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: **Insignificant activities**

- (a) Storage vessels, containing volatile organic liquid, identified as tank 3 through 6 at plant 5 and tanks 7 through 12 at plant 8. Each tank has a capacity greater than 40 cubic meters but less than 75 cubic meters and a construction date after July 23, 1984.[40 CFR 60, Subpart Kb]
- (b) Classified documents incinerator with a maximum rated capacity of 125 pounds per two hour cycle.[326 IAC 4-2] [326 IAC 9-1]
- (c) The following activities or categories of activities with individual HAP emissions not previously identified which have potential emissions greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP; [326 IAC 6.5-1]
 - (1) Stationary and portable welding, brazing, soldering and cutting operations
 - (2) Fuel and oil nozzle test stands
 - (3) Penetrant test
 - (4) Chemical milling and deoxidizing solution
 - (5) Air stripper at waste treatment plant
 - (6) Print shop operations
 - (7) All plating operations
 - (8) Powder coating

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)] [326 IAC 8-4][326 IAC 12]

D.6.1 Incinerators [326 IAC 4-2]

Pursuant to 326 IAC 4-2, the confidential document incinerator shall:

- (a) Consist of primary and secondary chambers or the equivalent;
- (b) Be equipped with a primary burner;
- (c) Comply with 326 IAC 5-1 and 326 IAC 2;
- (d) Be maintained, operated and burn waste in accordance with manufacturers specifications; or an operation and maintenance plan that complies with the following:
 - (1) Be designed to meet the PM emission limitation specified in subsection (a)(5) and include the following: procedures for receiving, handling and charging waste, procedures for incinerator startup and shutdown, procedures for responding to a malfunction, procedures for maintaining proper combustion air supply levels, procedures for operating the incinerator and associated air pollution control systems, procedures for handling ash, and a list of wastes that can be burned in the incinerator.
 - (2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.

- (3) The operational and maintenance plan must be readily accessible to incinerator operators.
- (4) The owner or operator of the incinerator shall notify the department, in writing, thirty days after the operation and maintenance plan is initially developed pursuant to this section.
- (e) Not emit particulate matter in excess of one of the following:
 - (1) Three tenths (0.3) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with a maximum solid waste capacity of greater than or equal to two hundred (200) pounds per hour.
 - (2) Five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with solid waste capacity less than two hundred (200) pounds per hour.
- (f) The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

If any of the requirements of (a) through (e) above are not met, then the owner or operator shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation. This condition is not federally enforceable.

D.6.2 Carbon Monoxide [326 IAC 9-1]

Pursuant to 326 IAC 9-1-2 (Carbon Monoxide Emission Limits), the confidential document incinerator shall not be operated unless the waste gas stream is burned in a direct-flame afterburner or a secondary chamber.

D.6.3 Particulate Matter Emissions [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2 the PM emissions from each facility with the potential to emit particulate matter shall not exceed 0.03 grains per dry standard cubic foot of exhaust air.

SECTION D.7 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (m) Rental diesel-fired generators, identified as 0070-89, permitted in 2008 and 2009, and approved for installation on an as-needed basis.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 Rental Units [326 IAC 2-7-10.5] [326 IAC 2-7-12]

The Permittee may remove, replace, and add rental diesel-fired generators at any time without prior approval under 326 IAC 2-7-10.5 and 326 IAC 2-7-12, provided that each generator is diesel-fired only.

D.7.2 PSD Minor Limit for NOx [326 IAC 2-2]

Pursuant to Significant Permit Modification No. 097-26695-00037, issued on June 24, 2009, in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following limits:

- (a) The NOx emissions from each rental diesel-fired generator with a rated output capacity of less than or equal to six hundred (600) hp shall not exceed 4.41 lb/MMBtu.
- (b) The NOx emissions from each rental diesel-fired generator with a rated output capacity of greater than six hundred (600) hp shall not exceed 3.2 lb/MMBtu.
- (c) The combined total NOx emissions from the rental diesel-fired generators shall be less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month. The following equation shall be used to determine compliance:

$$\text{NOx Emissions (ton/month)} = (4.41A + 3.2B) \times (0.14 \text{ MMBtu/gal}) \times (1 \text{ ton}/2000 \text{ lb})$$

Where:

A = Diesel fuel usage for units with a rated output capacity of less than or equal to 600 hp (gal/month)

B = Diesel fuel usage for units with a rated output capacity of greater than 600 hp (gal/month)

Compliance with these limits will limit the NOx emissions from these generators to less than forty (40) tons per twelve (12) consecutive month period and render 326 IAC 2-2 (PSD) not applicable.

D.7.3 Nonroad Engines [326 IAC 12] [40 CFR 60, Subpart IIII] [326 IAC 20-82] [40 CFR 63, Subpart ZZZZ] [40 CFR 1068.30]

In order to render the requirements of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII), which are incorporated by reference as 326 IAC 12, and the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ), which are incorporated by reference as 326 IAC 20-82, not applicable, and to ensure the rental units (0070-89) are nonroad engines, as defined at 40 CFR 1068.30, the Permittee shall comply with the following:

- (a) Any rental diesel-fired generator, that is part of 0070-89, shall remain at a location for a period not to exceed twelve (12) consecutive months.
- (b) Any unit that replaces a rental diesel-fired generator at a location that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.
- (c) For the purposes of this condition and pursuant to 40 CFR 1068.30 *Nonroad Engine* (2)(iii), a location is any single site at a building, structure, facility, or installation.

Compliance with these limits shall render the requirements of 40 CFR 60, Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) and 40 CFR 63, Subpart ZZZZ (National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines) not applicable.

D.7.4 Particulate Matter (PM) [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from each of the diesel-fired generators shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.7.5 Record Keeping Requirements

- (a) To document compliance with Condition D.8.2(c), the Permittee shall keep monthly records of the total monthly fuel usage for rental diesel-fired generators with a rated output capacity of less than or equal to 600 hp and shall keep monthly records of the total monthly fuel usage for rental diesel-fired generators with a rated output capacity of greater than 600 hp.
- (b) The Permittee shall maintain records of the dates of installation and removal of diesel-fired engines and the location of each unit as these units are installed and removed.
- (c) The Permittee shall maintain records of the make, model, horsepower rating, the manufacture date, and model year of each rental generator brought onto the site.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

D.7.6 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.8.2(c) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION E.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]					
(b) Two (2) gas turbines identified below:					
Emission Unit ID No.	Unit Identification	Maximum Capacity, MMBtu/hr	Fuels Permitted to Use	Stack No.	Date Constructed
0070-80	Gas Turbine	68	Natural Gas, Landfill gas	8-80	1999
0070-71	Gas Turbine	35	Natural Gas	8-9	1999
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)					

E.1.1 General Provisions Relating to NSPS [326 IAC 12-1-1] [40 CFR 60, Subpart GG]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated as 326 IAC 12-1-1, apply to the facilities described in this section except when otherwise specified in 40 CFR Part 60, Subpart GG.

E.1.2 Standards of Performance for Stationary Gas Turbines [40 CFR Part 60, Subpart GG] [326 IAC 12]

The Permittee shall comply with the provisions of 40 CFR 60, Subpart GG - Standards of Performance for Stationary Gas Turbines, which are incorporated by reference as 326 IAC 12-1-1. This rule is included as Attachment A. The two (2) gas turbines identified as 0070-80, and 0070-71 are subject to the following requirements of 40 CFR Part 60, Subpart GG:

- (1) 40 CFR 60.330
- (2) 40 CFR 60.331
- (3) 40 CFR 60.332(a)(2), (4)
- (4) 40 CFR 60.333(b)
- (5) 40 CFR 60.334(c)
- (6) 40 CFR 60.335(a), (b)(2)

SECTION E.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: **Insignificant activities**

- (a) Storage vessels, containing volatile organic liquid, identified as tank 3 through 6 at plant 5 and tanks 7 through 12 at plant 8. Each tank has a capacity greater than 40 cubic meters but less than 75 cubic meters and a construction date after July 23, 1984.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) [326 IAC 12]

E.2.1 General Provisions Relating to NSPS [326 IAC 12-1-1] [40 CFR 60, Subpart Kb]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated as 326 IAC 12-1-1, apply to the facilities described in this section except when otherwise specified in 40 CFR Part 60, Subpart Kb.

E.2.2 Standards of Performance for Volatile Organic Liquid Storage Vessels [40 CFR Part 60, Subpart Kb] [326 IAC 12]

The Permittee shall comply with the provisions of 40 CFR 60, Subpart Kb - Volatile Organic Liquid Storage Vessels, which are incorporated by reference as 326 IAC 12-1-1. This rule is included as Attachment B. Storage tanks identified as tank 3 through 6 at plant 5 and tanks 7 through 12 at plant 8 are subject to the following requirements of 40 CFR Part 60, Subpart Kb:

- (1) 40 CFR 60.110b (a), (b), (d)(1-8), (e)(i-ii), (2), (3), (4)
- (2) 40 CFR 60.111b
- (3) 40 CFR 60.117b

SECTION E.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (e) Degreasing operations, consisting of:
- (1) Two (2) Open Top Vapor Degreasers, identified as emission units 0070-13 and 0070-31, using perchloroethylene as the solvent, reconstructed in 1997.
 - (2) One (1) Open Top Vapor Degreasers, identified as emission units 0311-82 is permitted to use N-Propyl Bromide and Perchloroethylene as the solvent, reconstructed in 2000.
 - (3) Portable Cold Cleaner Degreasing Tanks, used for degreasing parts, identified as emission unit 0070-12, using mineral spirits as the solvent exhausting into the building.
 - (4) Spray cleaning booths, constructed prior to 1990, identified as emission unit 0070-14, using mineral spirits as the solvent and exhausting outside the building.
 - (5) One (1) stationary enclosed parts cleaning machine, Vacuum Degreaser Model V4-EX, identified as emission unit 24087, receiving approval to construct in 2006, using only Tetrachloroethylene as the solvent, with a cleaning capacity of 1.135 cubic meters, and exhausting inside the building.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.3.1 General Provisions Relating to HAPs [326 IAC 20-1-1] [40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-6-1, apply to emission units 0070-13, 0070-31, 0311-82, and one (1) stationary enclosed parts cleaning machine, Vacuum Degreaser Model V4-EX, identified as emission unit 24087 except when otherwise specified in 40 CFR Part 63, Subpart T.

E.3.2 National Emission Standards for Halogenated Solvent Cleaning [40 CFR 63.460, Subpart T] [326 IAC 20-6]

The Permittee shall comply with the provisions of National Emission Standards for Halogenated Solvent Cleaning, which is incorporated by reference as 326 IAC 20-6-1. This rule is included in Attachment C. The three (3) open top vapor degreasers identified as 0070-13, 0070-31, 0311-82, and one (1) Vacuum Degreaser Model V4-EX, identified as emission unit 24087 are subject to the following requirements of 40 CFR Part 63, Subpart T:

- (1) 40 CFR 63.460
- (2) 40 CFR 63.461
- (3) 40 CFR 63.463(a)(1-7),(b)(1)(i),(b)(2)(i),(c),(d),(e),
- (4) 40 CFR 63.465(e)
- (5) 40 CFR 63.466(a)(1),(b)(1),(c)(1-4)
- (6) 40 CFR 63.467(a),(b)
- (7) 40 CFR 63.468(a),(b),(d),(f)
- (8) 40 CFR 63, Subpart T - Appendix B (applicable portions)

SECTION E.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (c) Seven (7) paint booths identified as emission units 0070-N56a, 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, and 0070-85, controlled by dry filters, exhausting out stacks identified as SN56a, 5-10a, 5-10b, 5-10c, 5-10d, S-84, and S-85, respectively. Paint booths 0070-N56a, 0070-10a, 0070-10b, 0070-10c, and 0070-10d were installed prior to 1974 and modified in 1998 to comply with the aerospace NESHAPs. Paint booths 0070-84 and 0070-85 were installed in 2003.
- (d) Facility-wide wipe cleaning operations.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.4.1 General Provisions Relating to HAPs [326 IAC 20-1-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-1, apply to emission units 0070-N56a, 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, 0070-85, and facility-wide cleaning operations, except when otherwise specified in 40 CFR Part 63, Subpart GG.

E.4.2 National Emission Standards of Performance for Stationary Gas Turbines [40 CFR 63, Subpart GG][326 IAC 20-15]

The Permittee shall comply with the provisions of, which is incorporated by reference as 326 IAC 20-15-1. This rule is included as Attachment D. The seven (7) paint booths identified as emission units 0070-N56a, 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, 0070-85, and the related hand-wipe cleaning, flush cleaning, and waste storage and handling operations are subject to the following requirements of 40 CFR Part 63, Subpart GG:

- (1) 40 CFR 63.741(f)
- (2) 40 CFR 63.742
- (3) 40 CFR 63.744(a)(1-3),(b)(2),(c)(1)(ii)(2-3),(d)
- (4) 40 CFR 63.748
- (5) 40 CFR 63.750(a), (b)
- (6) 40 CFR 63.751(a)
- (7) 40 CFR 63.752(b)(1)(2)(5)(d)
- (8) 40 CFR 63.753(b)(c)
- (9) Table 1 to 40 CFR 63, Subpart GG (applicable portions)

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
PART 70 OPERATING PERMIT
CERTIFICATION**

Source Name: Rolls Royce Corporation
Source Address: 2001 and 2355 South Tibbs Ave, Indianapolis, Indiana 46241
Mailing Address: 2355 South Tibbs Ave., Indianapolis, IN 46241
Part 70 Permit No.: T097-25529-00311

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)
- Report (specify)
- Notification (specify)
- Affidavit (specify)
- Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865**

**PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT**

Source Name: Rolls Royce Corporation
Source Address: 2001 and 2355 South Tibbs Ave, Indianapolis, Indiana 46241
Mailing Address: 2355 South Tibbs Ave., Indianapolis, IN 46241
Part 70 Permit No.: T097-25529-00311

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM ₁₀ , SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

**PART 70 OPERATING PERMIT
SEMI-ANNUAL NATURAL GAS FIRED BOILER CERTIFICATION**

Source Name: Rolls Royce Corporation
Source Address: 2001 and 2355 South Tibbs Ave, Indianapolis, Indiana 46241
Mailing Address: 2355 South Tibbs Ave., Indianapolis, IN 46241
Part 70 Permit No.: T097-25529-00311

Natural Gas Only
 Alternate Fuel burned
From: _____ To: _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

A certification by the responsible official as defined by 326 IAC 2-7-1(34) is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: Rolls Royce Corporation
 Source Address: 2001 and 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Mailing Address: 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Part 70 Permit No.: T097-25529-00311
 Facility: Rental Diesel-Fired Generators (0070-89)
 Parameter: NOx Emissions
 Limit: Shall be less than forty (40) tons per twelve (12) consecutive month period. The following equation shall be used to determine compliance:

NOx Emissions (ton/month) = (4.41A + 3.2B) x (0.14 MMBtu/gal) x (1 ton/2000 lb),
 where:

- A = Diesel fuel usage for units with a rated output capacity of less than or equal to 600 hp (gal/month)
- B = Diesel fuel usage for units with a rated output capacity of greater than 600 hp (gal/month)

YEAR:

QUARTER:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: Rolls Royce Corporation
 Source Address: 2001 and 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Mailing Address: 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Part 70 Permit No.: T097-25529-00311
 Facility: Test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B)
 Parameter: Particulate Emissions (PM)
 Limit: The combined total PM emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 25 tons per twelve (12) consecutive month period with compliance determined at the end of each month calculated using the following equation:

$$E_{PM} = ((G_{\text{diesel/jet fuel}} \times 0.01) + (CF_{\text{natural gas}} \times 10.4) + (C_{SH} \times 1.9)) / 2000$$

Where:

E_{PM} = Emissions of PM in tons per month
 $G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32
 $CF_{\text{natural gas}}$ = million cubic feet of natural gas used each month in test cell 0070-N32
 C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

Month: _____ Year: _____

Month	Column 1	Column 2	Column 1 + Column 2
	PM emissions (Tons This Month)	PM emissions (Tons Previous 11 Months)	PM emissions (12 Month Total in Tons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
 Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: Rolls Royce Corporation
 Source Address: 2001 and 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Mailing Address: 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Part 70 Permit No.: T097-25529-00311
 Facility: Test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B)
 Parameter: Particulate Emissions less 10 microns (PM₁₀)
 Limit: The combined total PM₁₀ emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall each be less than 10 tons per twelve (12) consecutive month period with compliance determined at the end of each month calculated using the following equation:

$$E_{PM10} = ((G_{\text{diesel/jet fuel}} \times 0.01) + (CF_{\text{natural gas}} \times .081) + (C_{SH} \times 7.6)) / 2000$$

Where:

E_{PM10} = Emissions of PM₁₀ in tons per month
 $G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32
 $CF_{\text{natural gas}}$ = million cubic feet of natural gas used each month in test cell 0070-N32
 C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

Month: _____ Year: _____

Month	Column 1	Column 2	Column 1 + Column 2
	PM ₁₀ emissions (Tons This Month)	PM ₁₀ emissions (Tons Previous 11 Months)	PM ₁₀ emissions (12 Month Total in Tons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
 Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: Rolls Royce Corporation
 Source Address: 2001 and 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Mailing Address: 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Part 70 Permit No.: T097-25529-00311
 Facility: Test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B)
 Parameter: Particulate Emission less than 2.5 Microns (PM_{2.5})
 Limit: The combined total PM_{2.5} emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall each be less than 10 tons per twelve (12) consecutive month period with compliance determined at the end of each month calculated using the following equation:

$$E_{PM_{2.5}} = ((G_{\text{diesel/jet fuel}} \times 0.01) + (CF_{\text{natural gas}} \times .081) + (C_{SH} \times 7.6)) / 2000$$

Where:

$E_{PM_{2.5}}$ = Emissions of PM_{2.5} in tons per month
 $G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32
 $CF_{\text{natural gas}}$ = million cubic feet of natural gas used each month in test cell 0070-N32
 C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

Month: _____ Year: _____

Month	Column 1	Column 2	Column 1 + Column 2
	PM _{2.5} emissions (Tons This Month)	PM _{2.5} emissions (Tons Previous 11 Months)	PM _{2.5} emissions (12 Month Total in Tons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
 Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: Rolls Royce Corporation
 Source Address: 2001 and 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Mailing Address: 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Part 70 Permit No.: T097-25529-00311
 Facility: Test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B)
 Parameter: Nitrogen Oxide (NOx)
 Limit: The combined total NOx emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 40 tons per twelve (12) consecutive month period with compliance determined at the end of each month calculated using the following equation:

$$E_{NOx} = \sum E_{DOS}$$

$$E_{DOS} = ((G_{diesel/jet\ fuel} \times A) + (CF_{natural\ gas} \times D) + (C_{SH} \times 100)) / 2000$$

Where:

- E_{NOx} = Emissions of NO_x in tons per month
- E_{DOS} = Emissions of NO_x in tons per month at each different operating scenario
- A = 0.40 or emission rate determined from most recent emissions test in pounds per gallon
- D = 4,284 or emission rate determined from most recent emissions test in pounds per million cubic feet
- $G_{diesel/jet\ fuel}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32
- $CF_{natural\ gas}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32
- C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

Month: _____ Year: _____

Month	Column 1	Column 2	Column 1 + Column 2
	NOx emissions (Tons This Month)	NOx emissions (Tons Previous 11 Months)	NOx emissions (12 Month Total in Tons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: Rolls Royce Corporation
 Source Address: 2001 and 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Mailing Address: 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Part 70 Permit No.: T097-25529-00311
 Facility: Test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B)
 Parameter: Sulfur Dioxide (SO₂)
 Limit: The combined total SO₂ emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 40 tons per twelve (12) consecutive month period with compliance determined at the end of each month calculated using the following equation:

$$E_{SO_2} = ((G_{\text{diesel/jet fuel}} \times 0.07) + (CF_{\text{natural gas}} \times 0.617) + (C_{SH} \times 0.6)) / 2000$$

Where:

E_{SO_2} = Emissions of SO₂ in tons per month
 $G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32
 $CF_{\text{natural gas}}$ = million cubic feet of natural gas used each month in test cell 070-N32
 C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

Month: _____ Year: _____

Month	Column 1	Column 2	Column 1 + Column 2
	SO ₂ emissions (Tons This Month)	SO ₂ emissions (Tons Previous 11 Months)	SO ₂ emissions (12 Month Total in Tons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
 Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: Rolls Royce Corporation
 Source Address: 2001 and 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Mailing Address: 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Part 70 Permit No.: T097-25529-00311
 Facility: Test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B)
 Parameter: Carbon Monoxide (CO)
 Limit: The combined total CO emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 100 tons per twelve (12) consecutive month period with compliance determined at the end of each month calculated using the following equation:

$$E_{CO} = \sum E_{DOS}$$

$$E_{DOS} = ((G_{\text{diesel/jet fuel}} \times C) + (CF_{\text{natural gas}} \times E) + (C_{SH} \times 84)) / 2000$$

Where:

- E_{CO} = Emissions of CO in tons per month
- E_{DOS} = Emissions of CO in tons per month at each different operating scenario
- C = 1.21 or emission rate determined from most recent emissions test in pounds per gallon
- E = 332.9 or emission rate determined from most recent emissions test in pounds per million cubic feet
- $G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32
- $CF_{\text{natural gas}}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32
- C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

Month: _____ Year: _____

Month	Column 1	Column 2	Column 1 + Column 2
	CO emissions (Tons This Month)	CO emissions (Tons Previous 11 Months)	CO emissions (12 Month Total in Tons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: Rolls Royce Corporation
 Source Address: 2001 and 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Mailing Address: 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Part 70 Permit No.: T097-25529-00311
 Facility: Test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B)
 Parameter: Volatile Organic Compounds (VOC)
 Limit: The combined total VOC emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 40 tons per twelve (12) consecutive month period with compliance determined at the end of each month calculated using the following equation:

$$E_{VOC} = \sum E_{DOS}$$

$$E_{DOS} = ((G_{diesel/jet\ fuel} \times B) + (CF_{natural\ gas} \times F) + (C_{SH} \times 5.5)) / 2000$$

Where:

- E_{VOC} = Emissions of VOC in tons per month
- E_{DOS} = Emissions of VOC in tons per month at each different operating scenario
- B = 0.21 or emission rate determined from most recent emissions test in pounds per gallon
- F = 123.9 or emission rate determined from most recent emissions test in pounds per million cubic feet
- $G_{diesel/jet\ fuel}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32
- $CF_{natural\ gas}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32
- C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

Month: _____ Year: _____

Month	Column 1	Column 2	Column 1 + Column 2
	VOC emissions (Tons This Month)	VOC emissions (Tons Previous 11 Months)	VOC emissions (12 Month Total in Tons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: Rolls Royce Corporation
 Source Address: 2001 and 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Mailing Address: 2355 S. Tibbs Avenue, Indianapolis, IN 46241
 Part 70 Permit No.: T097-25529-00311
 Facility: Test cell 0070-N32
 Parameter: Volatile Organic Compounds (VOC)
 Limit: The combined total VOC emissions from test cell 824, identified as 0070-N32 shall be less than 25 tons per twelve (12) consecutive month period with compliance determined at the end of each month calculated using the following equation:

$$E_{VOC} = \sum E_{DOS}$$

$$E_{DOS} = ((G_{diesel/jet\ fuel} \times B) + (CF_{natural\ gas} \times F)) / 2000$$

Where:

- E_{VOC} = Emissions of VOC in tons per month
- E_{DOS} = Emissions of VOC in tons per month at each different operating scenario
- B = 0.21 or emission rate determined from most recent emissions test in pounds per gallon
- F = 123.9 or emission rate determined from most recent emissions test in pounds per million cubic feet
- $G_{diesel/jet\ fuel}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32
- $CF_{natural\ gas}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32

Month: _____ Year: _____

Month	Column 1	Column 2	Column 1 + Column 2
	VOC emissions (Tons This Month)	VOC emissions (Tons Previous 11 Months)	VOC emissions (12 Month Total in Tons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Attach a signed certification to complete this report.

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

**Indiana Department of Environmental Management
Office of Air Quality**

**Attachment A
for a
Part 70 Operating Permit**

Source Background and Description

Source Name:	Rolls Royce Corporation
Source Location:	Plant 8 - 2001 South Tibbs Ave., Indianapolis, IN 46241 Plant 5 - 2355 South Tibbs Ave., Indianapolis, IN 46241
County:	Marion
SIC Code:	3724
Permit Renewal No.:	T097-25529-00311
Permit Reviewer:	Roger Osburn

Subpart GG—Standards of Performance for Stationary Gas Turbines

§ 60.330 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities: All stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour, based on the lower heating value of the fuel fired.

(b) Any facility under paragraph (a) of this section which commences construction, modification, or reconstruction after October 3, 1977, is subject to the requirements of this part except as provided in paragraphs (e) and (j) of §60.332.

[44 FR 52798, Sept. 10, 1979, as amended at 52 FR 42434, Nov. 5, 1987; 65 FR 61759, Oct. 17, 2000]

§ 60.331 Definitions.

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

(a) *Stationary gas turbine* means any simple cycle gas turbine, regenerative cycle gas turbine or any gas turbine portion of a combined cycle steam/electric generating system that is not self propelled. It may, however, be mounted on a vehicle for portability.

(b) *Simple cycle gas turbine* means any stationary gas turbine which does not recover heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine, or which does not recover heat from the gas turbine exhaust gases to heat water or generate steam.

(c) *Regenerative cycle gas turbine* means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine.

(d) *Combined cycle gas turbine* means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to heat water or generate steam.

(e) *Emergency gas turbine* means any stationary gas turbine which operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by an emergency situation.

- (f) *Ice fog* means an atmospheric suspension of highly reflective ice crystals.
- (g) *ISO standard day conditions* means 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.
- (h) *Efficiency* means the gas turbine manufacturer's rated heat rate at peak load in terms of heat input per unit of power output based on the lower heating value of the fuel.
- (i) *Peak load* means 100 percent of the manufacturer's design capacity of the gas turbine at ISO standard day conditions.
- (j) *Base load* means the load level at which a gas turbine is normally operated.
- (k) *Fire-fighting turbine* means any stationary gas turbine that is used solely to pump water for extinguishing fires.
- (l) *Turbines employed in oil/gas production or oil/gas transportation* means any stationary gas turbine used to provide power to extract crude oil/natural gas from the earth or to move crude oil/natural gas, or products refined from these substances through pipelines.
- (m) *A Metropolitan Statistical Area or MSA* as defined by the Department of Commerce.
- (n) *Offshore platform gas turbines* means any stationary gas turbine located on a platform in an ocean.
- (o) *Garrison facility* means any permanent military installation.
- (p) *Gas turbine model* means a group of gas turbines having the same nominal air flow, combustor inlet pressure, combustor inlet temperature, firing temperature, turbine inlet temperature and turbine inlet pressure.
- (q) *Electric utility stationary gas turbine* means any stationary gas turbine constructed for the purpose of supplying more than one-third of its potential electric output capacity to any utility power distribution system for sale.
- (r) *Emergency fuel* is a fuel fired by a gas turbine only during circumstances, such as natural gas supply curtailment or breakdown of delivery system, that make it impossible to fire natural gas in the gas turbine.
- (s) *Unit operating hour* means a clock hour during which any fuel is combusted in the affected unit. If the unit combusts fuel for the entire clock hour, it is considered to be a full unit operating hour. If the unit combusts fuel for only part of the clock hour, it is considered to be a partial unit operating hour.
- (t) *Excess emissions* means a specified averaging period over which either:
- (1) The NO_x emissions are higher than the applicable emission limit in §60.332;
 - (2) The total sulfur content of the fuel being combusted in the affected facility exceeds the limit specified in §60.333; or
 - (3) The recorded value of a particular monitored parameter is outside the acceptable range specified in the parameter monitoring plan for the affected unit.
- (u) *Natural gas* means a naturally occurring fluid mixture of hydrocarbons (e.g. , methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions. Natural gas contains 20.0 grains or less of total sulfur per 100 standard cubic feet. Equivalents of this in other units are as follows: 0.068

weight percent total sulfur, 680 parts per million by weight (ppmw) total sulfur, and 338 parts per million by volume (ppmv) at 20 degrees Celsius total sulfur. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 British thermal units (Btu) per standard cubic foot. Natural gas does not include the following gaseous fuels: landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal-derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable sulfur content or heating value.

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

(w) *Lean premix stationary combustion turbine* means any stationary combustion turbine where the air and fuel are thoroughly mixed to form a lean mixture for combustion in the combustor. Mixing may occur before or in the combustion chamber. A unit which is capable of operating in both lean premix and diffusion flame modes is considered a lean premix stationary combustion turbine when it is in the lean premix mode, and it is considered a diffusion flame stationary combustion turbine when it is in the diffusion flame mode.

(x) *Diffusion flame stationary combustion turbine* means any stationary combustion turbine where fuel and air are injected at the combustor and are mixed only by diffusion prior to ignition. A unit which is capable of operating in both lean premix and diffusion flame modes is considered a lean premix stationary combustion turbine when it is in the lean premix mode, and it is considered a diffusion flame stationary combustion turbine when it is in the diffusion flame mode.

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

[44 FR 52798, Sept. 10, 1979, as amended at 47 FR 3770, Jan. 27, 1982; 65 FR 61759, Oct. 17, 2000; 69 FR 41359, July 8, 2004]

§ 60.332 Standard for nitrogen oxides.

(a) On and after the date on which the performance test required by §60.8 is completed, every owner or operator subject to the provisions of this subpart as specified in paragraphs (b), (c), and (d) of this section shall comply with one of the following, except as provided in paragraphs (e), (f), (g), (h), (i), (j), (k), and (l) of this section.

(1) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0075 \frac{(14.4)}{Y} + F$$

where:

STD = allowable ISO corrected (if required as given in §60.335(b)(1)) NO_x emission concentration (percent by volume at 15 percent oxygen and on a dry basis),

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour, and

F = NO_x emission allowance for fuel-bound nitrogen as defined in paragraph (a)(4) of this section.

(2) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0150 \frac{(14.4)}{Y} + F$$

where:

STD = allowable ISO corrected (if required as given in §60.335(b)(1)) NO_x emission concentration (percent by volume at 15 percent oxygen and on a dry basis),

Y = manufacturer's rated heat rate at manufacturer's rated peak load (kilojoules per watt hour), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour, and

F = NO_x emission allowance for fuel-bound nitrogen as defined in paragraph (a)(4) of this section.

(3) The use of F in paragraphs (a)(1) and (2) of this section is optional. That is, the owner or operator may choose to apply a NO_x allowance for fuel-bound nitrogen and determine the appropriate F-value in accordance with paragraph (a)(4) of this section or may accept an F-value of zero.

(4) If the owner or operator elects to apply a NO_x emission allowance for fuel-bound nitrogen, F shall be defined according to the nitrogen content of the fuel during the most recent performance test required under §60.8 as follows:

Fuel-bound nitrogen (percent by weight)	F (NO_x percent by volume)
$N \leq .015$	0
$0.015 < N \leq 0.1$	0.04 (N)
$0.1 < N \leq 0.25$	$0.004 + 0.0067(N - 0.1)$
$N > 0.25$	0.005

Where:

N = the nitrogen content of the fuel (percent by weight).

or:

Manufacturers may develop and submit to EPA custom fuel-bound nitrogen allowances for each gas turbine model they manufacture. These fuel-bound nitrogen allowances shall be substantiated with data and must be approved for use by the Administrator before the initial performance test required by §60.8. Notices of approval of custom fuel-bound nitrogen allowances will be published in the Federal Register.

(b) Electric utility stationary gas turbines with a heat input at peak load greater than 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired shall comply with the provisions of paragraph (a)(1) of this section.

(c) Stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour) but less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired, shall comply with the provisions of paragraph (a)(2) of this section.

(d) Stationary gas turbines with a manufacturer's rated base load at ISO conditions of 30 megawatts or less except as provided in §60.332(b) shall comply with paragraph (a)(2) of this section.

(e) Stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour) but less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired and that have commenced construction prior to October 3, 1982 are exempt from paragraph (a) of this section.

(f) Stationary gas turbines using water or steam injection for control of NO_x emissions are exempt from paragraph (a) when ice fog is deemed a traffic hazard by the owner or operator of the gas turbine.

(g) Emergency gas turbines, military gas turbines for use in other than a garrison facility, military gas turbines installed for use as military training facilities, and fire fighting gas turbines are exempt from paragraph (a) of this section.

(h) Stationary gas turbines engaged by manufacturers in research and development of equipment for both gas turbine emission control techniques and gas turbine efficiency improvements are exempt from paragraph (a) on a case-by-case basis as determined by the Administrator.

(i) Exemptions from the requirements of paragraph (a) of this section will be granted on a case-by-case basis as determined by the Administrator in specific geographical areas where mandatory water restrictions are required by governmental agencies because of drought conditions. These exemptions will be allowed only while the mandatory water restrictions are in effect.

(j) Stationary gas turbines with a heat input at peak load greater than 107.2 gigajoules per hour that commenced construction, modification, or reconstruction between the dates of October 3, 1977, and January 27, 1982, and were required in the September 10, 1979, Federal Register (44 FR 52792) to comply with paragraph (a)(1) of this section, except electric utility stationary gas turbines, are exempt from paragraph (a) of this section.

(k) Stationary gas turbines with a heat input greater than or equal to 10.7 gigajoules per hour (10 million Btu/hour) when fired with natural gas are exempt from paragraph (a)(2) of this section when being fired with an emergency fuel.

(l) Regenerative cycle gas turbines with a heat input less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) are exempt from paragraph (a) of this section.

[44 FR 52798, Sept. 10, 1979, as amended at 47 FR 3770, Jan. 27, 1982; 65 FR 61759, Oct. 17, 2000; 69 FR 41359, July 8, 2004]

§ 60.333 Standard for sulfur dioxide.

On and after the date on which the performance test required to be conducted by §60.8 is completed, every owner or operator subject to the provision of this subpart shall comply with one or the other of the following conditions:

(a) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis.

(b) No owner or operator subject to the provisions of this subpart shall burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw).

[44 FR 52798, Sept. 10, 1979, as amended at 69 FR 41360, July 8, 2004]

§ 60.334 Monitoring of operations.

(a) Except as provided in paragraph (b) of this section, the owner or operator of any stationary gas turbine subject to the provisions of this subpart and using water or steam injection to control NO_x emissions shall install, calibrate, maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water or steam to fuel being fired in the turbine.

(b) The owner or operator of any stationary gas turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and which uses water or steam injection to control NO_x emissions may, as an alternative to operating the continuous monitoring system described in paragraph (a) of this section, install, certify, maintain, operate, and quality-assure a continuous emission monitoring system (CEMS) consisting of NO_x and O₂ monitors. As an alternative, a CO₂ monitor may be used to adjust the measured NO_x concentrations to 15 percent O₂ by either converting the CO₂ hourly averages to equivalent O₂ concentrations using Equation F-14a or F-14b in appendix F to part 75 of this chapter and making the adjustments to 15 percent O₂, or by using the CO₂ readings directly to make the adjustments, as described in Method 20. If the option to use a CEMS is chosen, the CEMS shall be installed, certified, maintained and operated as follows:

(1) Each CEMS must be installed and certified according to PS 2 and 3 (for diluent) of 40 CFR part 60, appendix B, except the 7-day calibration drift is based on unit operating days, not calendar days. Appendix F, Procedure 1 is not required. The relative accuracy test audit (RATA) of the NO_x and diluent monitors may be performed individually or on a combined basis, *i.e.*, the relative accuracy tests of the CEMS may be performed either:

(i) On a ppm basis (for NO_x) and a percent O₂ basis for oxygen; or

(ii) On a ppm at 15 percent O₂ basis; or

(iii) On a ppm basis (for NO_x) and a percent CO₂ basis (for a CO₂ monitor that uses the procedures in Method 20 to correct the NO_x data to 15 percent O₂).

(2) As specified in §60.13(e)(2), during each full unit operating hour, each monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required to validate the hour.

(3) For purposes of identifying excess emissions, CEMS data must be reduced to hourly averages as specified in §60.13(h).

(i) For each unit operating hour in which a valid hourly average, as described in paragraph (b)(2) of this section, is obtained for both NO_x and diluent, the data acquisition and handling system must calculate and record the hourly NO_x emissions in the units of the applicable NO_x emission standard under §60.332(a), *i.e.*, percent NO_x by volume, dry basis, corrected to 15 percent O₂ and International Organization for Standardization (ISO) standard conditions (if required as given in §60.335(b)(1)). For any hour in which the hourly average O₂ concentration exceeds 19.0 percent O₂, a diluent cap value of 19.0 percent O₂ may be used in the emission calculations.

(ii) A worst case ISO correction factor may be calculated and applied using historical ambient data. For the purpose of this calculation, substitute the maximum humidity of ambient air (H_o), minimum ambient temperature (T_a), and minimum combustor inlet absolute pressure (P_o) into the ISO correction equation.

(iii) If the owner or operator has installed a NO_x CEMS to meet the requirements of part 75 of this chapter, and is continuing to meet the ongoing requirements of part 75 of this chapter, the CEMS may be used to meet the requirements of this section, except that the missing data substitution methodology provided for at 40 CFR part 75, subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in §60.7(c).

(c) For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and which does not use steam or water injection to control NO_x emissions, the owner or operator may, but is not required to, for purposes of determining excess emissions, use a CEMS that meets the requirements of paragraph (b) of this section. Also, if the owner or operator has previously submitted and received EPA, State, or local permitting authority approval of a procedure for monitoring compliance with the applicable NO_x emission limit under §60.332, that approved procedure may continue to be used.

(d) The owner or operator of any new turbine constructed after July 8, 2004, and which uses water or steam injection to control NO_x emissions may elect to use either the requirements in paragraph (a) of this section for continuous water or steam to fuel ratio monitoring or may use a NO_xCEMS installed, certified, operated, maintained, and quality-assured as described in paragraph (b) of this section.

(e) The owner or operator of any new turbine that commences construction after July 8, 2004, and which does not use water or steam injection to control NO_x emissions, may, but is not required to, elect to use a NO_xCEMS installed, certified, operated, maintained, and quality-assured as described in paragraph (b) of this section. Other acceptable monitoring approaches include periodic testing approved by EPA or the State or local permitting authority or continuous parameter monitoring as described in paragraph (f) of this section.

(f) The owner or operator of a new turbine that commences construction after July 8, 2004, which does not use water or steam injection to control NO_x emissions may, but is not required to, perform continuous parameter monitoring as follows:

(1) For a diffusion flame turbine without add-on selective catalytic reduction controls (SCR), the owner or operator shall define at least four parameters indicative of the unit's NO_x formation characteristics and shall monitor these parameters continuously.

(2) For any lean premix stationary combustion turbine, the owner or operator shall continuously monitor the appropriate parameters to determine whether the unit is operating in low-NO_x mode.

(3) For any turbine that uses SCR to reduce NO_x emissions, the owner or operator shall continuously monitor appropriate parameters to verify the proper operation of the emission controls.

(4) For affected units that are also regulated under part 75 of this chapter, if the owner or operator elects to monitor NO_x emission rate using the methodology in appendix E to part 75 of this chapter, or the low mass emissions methodology in §75.19 of this chapter, the requirements of this paragraph (f) may be met by performing the parametric monitoring described in section 2.3 of appendix E or in §75.19(c)(1)(iv)(H) of this chapter.

(g) The steam or water to fuel ratio or other parameters that are continuously monitored as described in paragraphs (a), (d) or (f) of this section shall be monitored during the performance test required under §60.8, to establish acceptable values and ranges. The owner or operator may supplement the performance test data with engineering analyses, design specifications, manufacturer's recommendations and other relevant information to define the acceptable parametric ranges more precisely. The owner or operator shall develop and keep on-site a parameter monitoring plan which explains the procedures used to document proper operation of the NO_x emission controls. The plan shall include the parameter(s) monitored and the acceptable range(s) of the parameter(s) as well as the basis for designating the parameter(s) and acceptable range(s). Any supplemental data such as engineering analyses, design specifications, manufacturer's recommendations and other relevant information shall be included in the monitoring plan. For affected units that are also subject to part 75 of this chapter and that use the low mass emissions methodology in §75.19 of this chapter or the NO_x emission measurement methodology in appendix E to part 75, the owner or operator may meet the requirements of this paragraph by developing and keeping on-site (or at a central location for unmanned facilities) a quality-assurance plan, as described in §75.19 (e)(5) or in section 2.3 of appendix E and section 1.3.6 of appendix B to part 75 of this chapter.

(h) The owner or operator of any stationary gas turbine subject to the provisions of this subpart:

(1) Shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in paragraph (h)(3) of this section. The sulfur content of the fuel must be determined using total sulfur methods described

in §60.335(b)(10). Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than 0.4 weight percent (4000 ppmw), ASTM D4084–82, 94, D5504–01, D6228–98, or Gas Processors Association Standard 2377–86 (all of which are incorporated by reference-see §60.17), which measure the major sulfur compounds may be used; and

(2) Shall monitor the nitrogen content of the fuel combusted in the turbine, if the owner or operator claims an allowance for fuel bound nitrogen (*i.e.* , if an F-value greater than zero is being or will be used by the owner or operator to calculate STD in §60.332). The nitrogen content of the fuel shall be determined using methods described in §60.335(b)(9) or an approved alternative.

(3) Notwithstanding the provisions of paragraph (h)(1) of this section, the owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in §60.331(u), regardless of whether an existing custom schedule approved by the administrator for subpart GG requires such monitoring. The owner or operator shall use one of the following sources of information to make the required demonstration:

(i) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or

(ii) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required.

(4) For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the Administrator, continue monitoring on this schedule.

(i) The frequency of determining the sulfur and nitrogen content of the fuel shall be as follows:

(1) *Fuel oil.* For fuel oil, use one of the total sulfur sampling options and the associated sampling frequency described in sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3 of appendix D to part 75 of this chapter (*i.e.* , flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank). If an emission allowance is being claimed for fuel-bound nitrogen, the nitrogen content of the oil shall be determined and recorded once per unit operating day.

(2) *Gaseous fuel.* Any applicable nitrogen content value of the gaseous fuel shall be determined and recorded once per unit operating day. For owners and operators that elect not to demonstrate sulfur content using options in paragraph (h)(3) of this section, and for which the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel shall be determined and recorded once per unit operating day.

(3) *Custom schedules.* Notwithstanding the requirements of paragraph (i)(2) of this section, operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in paragraphs (i)(3)(i) and (i)(3)(ii) of this section, custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in §60.333.

(i) The two custom sulfur monitoring schedules set forth in paragraphs (i)(3)(i)(A) through (D) and in paragraph (i)(3)(ii) of this section are acceptable, without prior Administrative approval:

(A) The owner or operator shall obtain daily total sulfur content measurements for 30 consecutive unit operating days, using the applicable methods specified in this subpart. Based on the results of the 30 daily samples, the required frequency for subsequent monitoring of the fuel's total sulfur content shall be as specified in paragraph (i)(3)(i)(B), (C), or (D) of this section, as applicable.

(B) If none of the 30 daily measurements of the fuel's total sulfur content exceeds 0.4 weight percent (4000 ppmw), subsequent sulfur content monitoring may be performed at 12 month intervals. If any of the samples taken at 12-month intervals has a total sulfur content between 0.4 and 0.8 weight percent (4000 and 8000 ppmw), follow the procedures in paragraph (i)(3)(i)(C) of this section. If any measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph (i)(3)(i)(D) of this section.

(C) If at least one of the 30 daily measurements of the fuel's total sulfur content is between 0.4 and 0.8 weight percent (4000 and 8000 ppmw), but none exceeds 0.8 weight percent (8000 ppmw), then:

(1) Collect and analyze a sample every 30 days for three months. If any sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph (i)(3)(i)(D) of this section. Otherwise, follow the procedures in paragraph (i)(3)(i)(C)(2) of this section.

(2) Begin monitoring at 6-month intervals for 12 months. If any sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph (i)(3)(i)(D) of this section. Otherwise, follow the procedures in paragraph (i)(3)(i)(C)(3) of this section.

(3) Begin monitoring at 12-month intervals. If any sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph (i)(3)(i)(D) of this section. Otherwise, continue to monitor at this frequency.

(D) If a sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), immediately begin daily monitoring according to paragraph (i)(3)(i)(A) of this section. Daily monitoring shall continue until 30 consecutive daily samples, each having a sulfur content no greater than 0.8 weight percent (8000 ppmw), are obtained. At that point, the applicable procedures of paragraph (i)(3)(i)(B) or (C) of this section shall be followed.

(ii) The owner or operator may use the data collected from the 720-hour sulfur sampling demonstration described in section 2.3.6 of appendix D to part 75 of this chapter to determine a custom sulfur sampling schedule, as follows:

(A) If the maximum fuel sulfur content obtained from the 720 hourly samples does not exceed 20 grains/100 scf (*i.e.* , the maximum total sulfur content of natural gas as defined in §60.331(u)), no additional monitoring of the sulfur content of the gas is required, for the purposes of this subpart.

(B) If the maximum fuel sulfur content obtained from any of the 720 hourly samples exceeds 20 grains/100 scf, but none of the sulfur content values (when converted to weight percent sulfur) exceeds 0.4 weight percent (4000 ppmw), then the minimum required sampling frequency shall be one sample at 12 month intervals.

(C) If any sample result exceeds 0.4 weight percent sulfur (4000 ppmw), but none exceeds 0.8 weight percent sulfur (8000 ppmw), follow the provisions of paragraph (i)(3)(i)(C) of this section.

(D) If the sulfur content of any of the 720 hourly samples exceeds 0.8 weight percent (8000 ppmw), follow the provisions of paragraph (i)(3)(i)(D) of this section.

(j) For each affected unit that elects to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content or fuel nitrogen content under this subpart, the owner or operator shall submit reports of excess emissions and monitor downtime, in accordance with §60.7(c). Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For the purpose of reports required under §60.7(c), periods of excess emissions and monitor downtime that shall be reported are defined as follows:

(1) Nitrogen oxides.

(i) For turbines using water or steam to fuel ratio monitoring:

(A) An excess emission shall be any unit operating hour for which the average steam or water to fuel ratio, as measured by the continuous monitoring system, falls below the acceptable steam or water to fuel ratio needed to demonstrate compliance with §60.332, as established during the performance test required in §60.8. Any unit operating hour in which no water or steam is injected into the turbine shall also be considered an excess emission.

(B) A period of monitor downtime shall be any unit operating hour in which water or steam is injected into the turbine, but the essential parametric data needed to determine the steam or water to fuel ratio are unavailable or invalid.

(C) Each report shall include the average steam or water to fuel ratio, average fuel consumption, ambient conditions (temperature, pressure, and humidity), gas turbine load, and (if applicable) the nitrogen content of the fuel during each excess emission. You do not have to report ambient conditions if you opt to use the worst case ISO correction factor as specified in §60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of §60.335(b)(1).

(ii) If the owner or operator elects to take an emission allowance for fuel bound nitrogen, then excess emissions and periods of monitor downtime are as described in paragraphs (j)(1)(ii)(A) and (B) of this section.

(A) An excess emission shall be the period of time during which the fuel-bound nitrogen (N) is greater than the value measured during the performance test required in §60.8 and used to determine the allowance. The excess emission begins on the date and hour of the sample which shows that N is greater than the performance test value, and ends with the date and hour of a subsequent sample which shows a fuel nitrogen content less than or equal to the performance test value.

(B) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour that a required sample is taken, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

(iii) For turbines using NO_x and diluent CEMS:

(A) An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NO_x concentration exceeds the applicable emission limit in §60.332(a)(1) or (2). For the purposes of this subpart, a "4-hour rolling average NO_x concentration" is the arithmetic average of the average NO_x concentration measured by the CEMS for a given hour (corrected to 15 percent O₂ and, if required under §60.335(b)(1), to ISO standard conditions) and the three unit operating hour average NO_x concentrations immediately preceding that unit operating hour.

(B) A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NO_x concentration or diluent (or both).

(C) Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period and (if the owner or operator has claimed an emission allowance for fuel bound nitrogen) the nitrogen content of the fuel during the period of excess emissions. You do not have to report ambient conditions if you opt to use the worst case ISO correction factor as specified in §60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of §60.335(b)(1).

(iv) For owners or operators that elect, under paragraph (f) of this section, to monitor combustion parameters or parameters that document proper operation of the NO_x emission controls:

(A) An excess emission shall be a 4-hour rolling unit operating hour average in which any monitored parameter does not achieve the target value or is outside the acceptable range defined in the parameter monitoring plan for the unit.

(B) A period of monitor downtime shall be a unit operating hour in which any of the required parametric data are either not recorded or are invalid.

(2) Sulfur dioxide. If the owner or operator is required to monitor the sulfur content of the fuel under paragraph (h) of this section:

(i) For samples of gaseous fuel and for oil samples obtained using daily sampling, flow proportional sampling, or sampling from the unit's storage tank, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 weight percent and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

(ii) If the option to sample each delivery of fuel oil has been selected, the owner or operator shall immediately switch to one of the other oil sampling options (*i.e.* , daily sampling, flow proportional sampling, or sampling from the unit's storage tank) if the sulfur content of a delivery exceeds 0.8 weight percent. The owner or operator shall continue to use one of the other sampling options until all of the oil from the delivery has been combusted, and shall evaluate excess emissions according to paragraph (j)(2)(i) of this section. When all of the fuel from the delivery has been burned, the owner or operator may resume using the as-delivered sampling option.

(iii) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime shall include only unit operating hours, and ends on the date and hour of the next valid sample.

(3) *Ice fog*. Each period during which an exemption provided in §60.332(f) is in effect shall be reported in writing to the Administrator quarterly. For each period the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time the air pollution control system was reactivated shall be reported. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

(4) *Emergency fuel*. Each period during which an exemption provided in §60.332(k) is in effect shall be included in the report required in §60.7(c). For each period, the type, reasons, and duration of the firing of the emergency fuel shall be reported.

(5) All reports required under §60.7(c) shall be postmarked by the 30th day following the end of each 6-month period.

[44 FR 52798, Sept. 10, 1979, as amended at 47 FR 3770, Jan. 27, 1982; 65 FR 61759, Oct. 17, 2000; 69 FR 41360, July 8, 2004; 71 FR 9457, Feb. 24, 2006]

§ 60.335 Test methods and procedures.

(a) The owner or operator shall conduct the performance tests required in §60.8, using either

(1) EPA Method 20,

(2) ASTM D6522–00 (incorporated by reference, see §60.17), or

(3) EPA Method 7E and either EPA Method 3 or 3A in appendix A to this part, to determine NO_x and diluent concentration.

(4) Sampling traverse points are to be selected following Method 20 or Method 1, (non-particulate procedures) and sampled for equal time intervals. The sampling shall be performed with a traversing single-hole probe or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.

(5) Notwithstanding paragraph (a)(4) of this section, the owner or operator may test at few points than are specified in Method 1 or Method 20 if the following conditions are met:

(i) You may perform a stratification test for NO_x and diluent pursuant to

(A) [Reserved]

(B) The procedures specified in section 6.5.6.1(a) through (e) appendix A to part 75 of this chapter.

(ii) Once the stratification sampling is completed, the owner or operator may use the following alternative sample point selection criteria for the performance test:

(A) If each of the individual traverse point NO_x concentrations, normalized to 15 percent O₂, is within ±10 percent of the mean normalized concentration for all traverse points, then you may use 3 points (located either 16.7, 50.0, and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The 3 points shall be located along the measurement line that exhibited the highest average normalized NO_x concentration during the stratification test; or

(B) If each of the individual traverse point NO_x concentrations, normalized to 15 percent O₂, is within ±5 percent of the mean normalized concentration for all traverse points, then you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid.

(6) Other acceptable alternative reference methods and procedures are given in paragraph (c) of this section.

(b) The owner or operator shall determine compliance with the applicable nitrogen oxides emission limitation in §60.332 and shall meet the performance test requirements of §60.8 as follows:

(1) For each run of the performance test, the mean nitrogen oxides emission concentration (NO_{xo}) corrected to 15 percent O₂ shall be corrected to ISO standard conditions using the following equation. Notwithstanding this requirement, use of the ISO correction equation is optional for: Lean premix stationary combustion turbines; units used in association with heat recovery steam generators (HRSG) equipped with duct burners; and units equipped with add-on emission control devices:

$$NO_x = (NO_{x_o})(P_r/P_o)^{0.5} e^{19(H_o - 0.00633)(288^\circ K/T_a)^{1.53}}$$

Where:

NO_x = emission concentration of NO_x at 15 percent O₂ and ISO standard ambient conditions, ppm by volume, dry basis,

NO_{xo} = mean observed NO_x concentration, ppm by volume, dry basis, at 15 percent O₂,

P_r = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg,

P_o = observed combustor inlet absolute pressure at test, mm Hg,

H_o = observed humidity of ambient air, g H₂O/g air,

e = transcendental constant, 2.718, and

T_a = ambient temperature, °K.

(2) The 3-run performance test required by §60.8 must be performed within ±5 percent at 30, 50, 75, and 90-to-100 percent of peak load or at four evenly-spaced load points in the normal operating range of the gas turbine, including the minimum point in the operating range and 90-to-100 percent of peak load, or at the

highest achievable load point if 90-to-100 percent of peak load cannot be physically achieved in practice. If the turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel. Notwithstanding these requirements, performance testing is not required for any emergency fuel (as defined in §60.331).

(3) For a combined cycle turbine system with supplemental heat (duct burner), the owner or operator may elect to measure the turbine NO_x emissions after the duct burner rather than directly after the turbine. If the owner or operator elects to use this alternative sampling location, the applicable NO_x emission limit in §60.332 for the combustion turbine must still be met.

(4) If water or steam injection is used to control NO_x with no additional post-combustion NO_x control and the owner or operator chooses to monitor the steam or water to fuel ratio in accordance with §60.334(a), then that monitoring system must be operated concurrently with each EPA Method 20, ASTM D6522-00 (incorporated by reference, see §60.17), or EPA Method 7E run and shall be used to determine the fuel consumption and the steam or water to fuel ratio necessary to comply with the applicable §60.332 NO_x emission limit.

(5) If the owner operator elects to claim an emission allowance for fuel bound nitrogen as described in §60.332, then concurrently with each reference method run, a representative sample of the fuel used shall be collected and analyzed, following the applicable procedures described in §60.335(b)(9). These data shall be used to determine the maximum fuel nitrogen content for which the established water (or steam) to fuel ratio will be valid.

(6) If the owner or operator elects to install a CEMS, the performance evaluation of the CEMS may either be conducted separately (as described in paragraph (b)(7) of this section) or as part of the initial performance test of the affected unit.

(7) If the owner or operator elects to install and certify a NO_xCEMS under §60.334(e), then the initial performance test required under §60.8 may be done in the following alternative manner:

(i) Perform a minimum of 9 reference method runs, with a minimum time per run of 21 minutes, at a single load level, between 90 and 100 percent of peak (or the highest physically achievable) load.

(ii) Use the test data both to demonstrate compliance with the applicable NO_x emission limit under §60.332 and to provide the required reference method data for the RATA of the CEMS described under §60.334(b).

(iii) The requirement to test at three additional load levels is waived.

(8) If the owner or operator elects under §60.334(f) to monitor combustion parameters or parameters indicative of proper operation of NO_x emission controls, the appropriate parameters shall be continuously monitored and recorded during each run of the initial performance test, to establish acceptable operating ranges, for purposes of the parameter monitoring plan for the affected unit, as specified in §60.334(g).

(9) To determine the fuel bound nitrogen content of fuel being fired (if an emission allowance is claimed for fuel bound nitrogen), the owner or operator may use equipment and procedures meeting the requirements of:

(i) For liquid fuels, ASTM D2597-94 (Reapproved 1999), D6366-99, D4629-02, D5762-02 (all of which are incorporated by reference, see §60.17); or

(ii) For gaseous fuels, shall use analytical methods and procedures that are accurate to within 5 percent of the instrument range and are approved by the Administrator.

(10) If the owner or operator is required under §60.334(i)(1) or (3) to periodically determine the sulfur content of the fuel combusted in the turbine, a minimum of three fuel samples shall be collected during the performance test. Analyze the samples for the total sulfur content of the fuel using:

(i) For liquid fuels, ASTM D129–00, D2622–98, D4294–02, D1266–98, D5453–00 or D1552–01 (all of which are incorporated by reference, see §60.17); or

(ii) For gaseous fuels, ASTM D1072–80, 90 (Reapproved 1994); D3246–81, 92, 96; D4468–85 (Reapproved 2000); or D6667–01 (all of which are incorporated by reference, see §60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the prior approval of the Administrator.

(11) The fuel analyses required under paragraphs (b)(9) and (b)(10) of this section may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) Instead of using the equation in paragraph (b)(1) of this section, manufacturers may develop ambient condition correction factors to adjust the nitrogen oxides emission level measured by the performance test as provided in §60.8 to ISO standard day conditions.

[69 FR 41363, July 8, 2004, as amended at 71 FR 9458, Feb. 24, 2006]

**Indiana Department of Environmental Management
Office of Air Quality**

**Attachment B
for a
Part 70 Operating Permit**

Source Background and Description

Source Name:	Rolls Royce Corporation
Source Location:	Plant 8 - 2001 South Tibbs Ave., Indianapolis, IN 46241 Plant 5 - 2355 South Tibbs Ave., Indianapolis, IN 46241
County:	Marion
SIC Code:	3724
Permit Renewal No.:	T097-25529-00311
Permit Reviewer:	Roger Osburn

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

Source: 52 FR 11429, Apr. 8, 1987, unless otherwise noted.

§ 60.110b Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c) [Reserved]

(d) This subpart does not apply to the following:

- (1) Vessels at coke oven by-product plants.
- (2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.
- (3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.
- (4) Vessels with a design capacity less than or equal to 1,589.874 m^3 used for petroleum or condensate stored, processed, or treated prior to custody transfer.
- (5) Vessels located at bulk gasoline plants.
- (6) Storage vessels located at gasoline service stations.
- (7) Vessels used to store beverage alcohol.

(8) Vessels subject to subpart GGGG of 40 CFR part 63.

(e) *Alternative means of compliance* —(1) *Option to comply with part 65.* Owners or operators may choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§60.112b through 60.117b for storage vessels that are subject to this subpart that meet the specifications in paragraphs (e)(1)(i) and (ii) of this section. When choosing to comply with 40 CFR part 65, subpart C, the monitoring requirements of §60.116b(c), (e), (f)(1), and (g) still apply. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) A storage vessel with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or

(ii) A storage vessel with a design capacity greater than 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C, must comply with 40 CFR part 65, subpart A.

(3) *Internal floating roof report.* If an owner or operator installs an internal floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.43. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

(4) *External floating roof report.* If an owner or operator installs an external floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.44. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 78275, Dec. 14, 2000; 68 FR 59332, Oct. 15, 2003]

§ 60.111b Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

Bulk gasoline plant means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.

Condensate means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

Custody transfer means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

Fill means the introduction of VOL into a storage vessel but not necessarily to complete capacity.

Gasoline service station means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the volatile organic compounds (as defined in 40 CFR 51.100) in the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOL's stored at the ambient temperature, as determined:

- (1) In accordance with methods described in American Petroleum Institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference—see §60.17); or
- (2) As obtained from standard reference texts; or
- (3) As determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17);
- (4) Any other method approved by the Administrator.

Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Petroleum liquids means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

Process tank means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

Reid vapor pressure means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323–82 or 94 (incorporated by reference—see §60.17).

Storage vessel means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

- (1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;
- (2) Subsurface caverns or porous rock reservoirs; or
- (3) Process tanks.

Volatile organic liquid (VOL) means any organic liquid which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere.

Waste means any liquid resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 61756, Oct. 17, 2000; 68 FR 59333, Oct. 15, 2003]

§ 60.112b Standard for volatile organic compounds (VOC).

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

(1) A fixed roof in combination with an internal floating roof meeting the following specifications:

(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in §60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in §60.113b(b)(4).

(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(3) A closed vent system and control device meeting the following specifications:

(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, §60.485(b).

(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§60.18) of the General Provisions.

(4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in §60.114b of this subpart.

(b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m³ which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa shall equip each storage vessel with one of the following:

(1) A closed vent system and control device as specified in §60.112b(a)(3).

(2) A system equivalent to that described in paragraph (b)(1) as provided in §60.114b of this subpart.

(c) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.* This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site").

(1) For any storage vessel that otherwise would be subject to the control technology requirements of paragraphs (a) or (b) of this section, the site shall have the option of either complying directly with the requirements of this subpart, or reducing the site-wide total criteria pollutant emissions cap (total emissions cap) in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the total emissions cap in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this subpart for such storage vessel.

(2) For any storage vessel at the site not subject to the requirements of 40 CFR 60.112b (a) or (b), the requirements of 40 CFR 60.116b (b) and (c) and the General Provisions (subpart A of this part) shall not apply.

[52 FR 11429, Apr. 8, 1987, as amended at 62 FR 52641, Oct. 8, 1997]

§ 60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in §60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of §60.112b.

(a) After installing the control equipment required to meet §60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

(2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with a double-seal system as specified in §60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this

section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(b) After installing the control equipment required to meet §60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.

(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 Cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of §60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in §60.112b (a)(3) or (b)(2) (other than a flare) is exempt from §60.8 of the General Provisions and shall meet the following requirements.

(1) Submit for approval by the Administrator as an attachment to the notification required by §60.7(a)(1) or, if the facility is exempt from §60.7(a)(1), as an attachment to the notification required by §60.7(a)(2), an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and

liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.

(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in §60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, §60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

§ 60.114b Alternative means of emission limitation.

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in §60.112b, the Administrator will publish in the Federal Register a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall submit to the Administrator a written application including:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.

(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as specified in §60.112b.

§ 60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in §60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of §60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Keep a record of each inspection performed as required by §60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in §60.113b(a)(2) are detected during the annual visual inspection required by §60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in §60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of §61.112b(a)(1) or §60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with §61.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(2) and §60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by §60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by §60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by §60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with §60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with §60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with §60.112b, the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by §60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by §60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start-up date.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under §60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

§ 60.116b Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or

(ii) ASTM D323–82 or 94 (incorporated by reference—see §60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specification of §60.112b or with emissions reductions equipment as specified in 40 CFR 65.42(b)(4), (b)(5), (b)(6), or (c) is exempt from the requirements of paragraphs (c) and (d) of this section.

[52 FR 11429, Apr. 8, 1987, as amended at 65 FR 61756, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000; 68 FR 59333, Oct. 15, 2003]

§ 60.117b Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

[52 FR 11429, Apr. 8, 1987, as amended at 52 FR 22780, June 16, 1987]

**Indiana Department of Environmental Management
Office of Air Quality**

**Attachment C
for a
Part 70 Operating Permit**

Source Background and Description

Source Name:	Rolls Royce Corporation
Source Location:	Plant 8 - 2001 South Tibbs Ave., Indianapolis, IN 46241 Plant 5 - 2355 South Tibbs Ave., Indianapolis, IN 46241
County:	Marion
SIC Code:	3724
Permit Renewal No.:	T097-25529-00311
Permit Reviewer:	Roger Osburn

Subpart T—National Emission Standards for Halogenated Solvent Cleaning

Source: 59 FR 61805, Dec. 2, 1994, unless otherwise noted.

§ 63.460 Applicability and designation of source.

(a) The provisions of this subpart apply to each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5) or chloroform (CAS No. 67-66-3), or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent. The concentration of these solvents may be determined using EPA test method 18, material safety data sheets, or engineering calculations. Wipe cleaning activities, such as using a rag containing halogenated solvent or a spray cleaner containing halogenated solvent are not covered under the provisions of this subpart.

(b) Except as noted in appendix C (General Provisions Applicability to subpart T) of this subpart, the provisions of subpart A of this part (General Provisions) apply to owners or operators of any solvent cleaning machine meeting the applicability criteria of paragraph (a) of this section.

(c) Except as provided in paragraph (g) of this section, each solvent cleaning machine subject to this subpart that commenced construction or reconstruction after November 29, 1993 shall achieve compliance with the provisions of this subpart, except for §63.471, immediately upon start-up or by December 2, 1994, whichever is later.

(d) Except as provided in paragraph (g) of this section, each solvent cleaning machine subject to this subpart that commenced construction or reconstruction on or before November 29, 1993 shall achieve compliance with the provisions of this subpart, except for §63.471, no later than December 2, 1997.

(e) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authority contained in paragraph (f) of this section shall be retained by the Administrator and not transferred to a State.

(f) [Reserved]

(g) Each continuous web cleaning machine subject to this subpart shall achieve compliance with the provisions of this subpart, except for §63.471, no later than December 2, 1999.

(h) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 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.

(i) The compliance date for the requirements in §63.471 depends on the date that construction or reconstruction of the affected facility commences. For purposes of this paragraph, affected facility means all solvent cleaning machines, except solvent cleaning machines used in the manufacture and maintenance of aerospace products, solvent cleaning machines used in the manufacture of narrow tubing, and continuous web cleaning machines, located at a major source that are subject to the facility-wide limits in table 1 of §63.471(b)(2), and for area sources, affected facility means all solvent cleaning machines, except cold batch cleaning machines, located at an area source that are subject to the facility-wide limits in table 1 of §63.471(b)(2).

(1) Each affected facility that was constructed or reconstructed on or before August 17, 2006, shall be in compliance with the provisions of this subpart no later than May 3, 2010.

(2) Each affected facility that was constructed or reconstructed on or after August 17, 2006, shall be in compliance with the provisions of this subpart on May 3, 2007 or immediately upon startup, whichever is later.

[59 FR 61805, Dec. 2, 1994; 59 FR 67750, Dec. 30, 1994, as amended at 60 FR 29485, June 5, 1995; 63 FR 68400, Dec. 11, 1998; 68 FR 37349, June 23, 2003; 70 FR 75345, Dec. 19, 2005; 72 FR 25157, May 3, 2007]

§ 63.461 Definitions.

Unless defined below, all terms used in this subpart are used as defined in the 1990 Clean Air Act, or in subpart A of 40 CFR part 63:

Administrator means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., State that has been delegated the authority to implement the provisions of this part.)

Air blanket means the layer of air inside the solvent cleaning machine freeboard located above the solvent/air interface. The centerline of the air blanket is equidistant between the sides of the machine.

Air knife system means a device that directs forced air at high pressure, high volume, or a combination of high pressure and high volume, through a small opening directly at the surface of a continuous web part. The purpose of this system is to remove the solvent film from the surfaces of the continuous web part.

Automated parts handling system means a mechanical device that carries all parts and parts baskets at a controlled speed from the initial loading of soiled or wet parts through the removal of the cleaned or dried parts. Automated parts handling systems include, but are not limited to, hoists and conveyors.

Batch cleaning machine means a solvent cleaning machine in which individual parts or a set of parts move through the entire cleaning cycle before new parts are introduced into the solvent cleaning machine. An open-top vapor cleaning machine is a type of batch cleaning machine. A solvent cleaning machine, such as a ferris wheel or a cross-rod degreaser, that clean multiple batch loads simultaneously and are manually loaded are batch cleaning machines.

Carbon adsorber means a bed of activated carbon into which an air-solvent gas-vapor stream is routed and which adsorbs the solvent on the carbon.

Clean liquid solvent means fresh unused solvent, recycled solvent, or used solvent that has been cleaned of soils (e.g., skimmed of oils or sludge and strained of metal chips).

Cleaning capacity means, for a cleaning machine without a solvent/air interface, the maximum volume of parts that can be cleaned at one time. In most cases, the cleaning capacity is equal to the volume (length times width times height) of the cleaning chamber.

Cold cleaning machine means any device or piece of equipment that contains and/or uses liquid solvent, into which parts are placed to remove soils from the surfaces of the parts or to dry the parts. Cleaning machines that contain and use heated, nonboiling solvent to clean the parts are classified as cold cleaning machines.

Combined squeegee and air-knife system means a system consisting of a combination of a squeegee system and an air-knife system within a single enclosure.

Consumption means the amount of halogenated hazardous air pollutant solvent added to the solvent cleaning machine.

Continuous web cleaning machine means a solvent cleaning machine in which parts such as film, coils, wire, and metal strips are cleaned at speeds typically in excess of 11 feet per minute. Parts are generally uncoiled, cleaned such that the same part is simultaneously entering and exiting the solvent application area of the solvent cleaning machine, and then recoiled or cut. For the purposes of this subpart, all continuous web cleaning machines are considered to be a subset of in-line solvent cleaning machines.

Cover means a lid, top, or portal cover that shields the solvent cleaning machine openings from air disturbances when in place and is designed to be easily opened and closed without disturbing the vapor zone. Air disturbances include, but are not limited to, lip exhausts, ventilation fans, and general room drafts. Types of covers include, but are not limited to, sliding, biparting, and rolltop covers.

Cross-rod solvent cleaning machine means a batch solvent cleaning machine in which parts baskets are suspended from "cross-rods" as they are moved through the machine. In a cross-rod cleaning machine, parts are loaded semi-continuously, and enter and exit the machine from a single portal.

Downtime mode means the time period when a solvent cleaning machine is not cleaning parts and the sump heating coils, if present, are turned off.

Dwell means the technique of holding parts within the freeboard area but above the vapor zone of the solvent cleaning machine. Dwell occurs after cleaning to allow solvent to drain from the parts or parts baskets back into the solvent cleaning machine.

Dwell time means the required minimum length of time that a part must dwell, as determined by §63.465(d).

Emissions means halogenated hazardous air pollutant solvent consumed (i.e., halogenated hazardous air pollutant solvent added to the machine) minus the liquid halogenated hazardous air pollutant solvent removed from the machine and the halogenated hazardous air pollutant solvent removed from the machine in the solid waste.

Existing means any solvent cleaning machine the construction or reconstruction of which was commenced on or before November 29, 1993. A machine, the construction or reconstruction of which was commenced on or before November 29, 1993, but that did not meet the definition of a solvent cleaning machine on December 2, 1994, because it did not use halogenated HAP solvent liquid or vapor covered under this subpart to remove soils, becomes an existing source when it commences to use such liquid or vapor. A solvent cleaning machine moved within a contiguous facility or to another facility under the same ownership, constitutes an existing machine.

Freeboard area means; for a batch cleaning machine, the area within the solvent cleaning machine that extends from the solvent/air interface to the top of the solvent cleaning machine; for an in-line cleaning machine, it is the area within the solvent cleaning machine that extends from the solvent/air interface to the bottom of the entrance or exit opening, whichever is lower.

Freeboard height means; for a batch cleaning machine, the distance from the solvent/air interface, as measured during the idling mode, to the top of the cleaning machine; for an in-line cleaning machine, it is the distance from the solvent/air interface to the bottom of the entrance or exit opening, whichever is lower, as measured during the idling mode.

Freeboard ratio means the ratio of the solvent cleaning machine freeboard height to the smaller interior dimension (length, width, or diameter) of the solvent cleaning machine.

Freeboard refrigeration device (also called a chiller) means a set of secondary coils mounted in the freeboard area that carries a refrigerant or other chilled substance to provide a chilled air blanket above the solvent vapor. A primary condenser capable of meeting the requirements of §63.463(e)(2)(i) is defined as both a freeboard refrigeration device and a primary condenser for the purposes of these standards.

Halogenated hazardous air pollutant solvent or halogenated HAP solvent means methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5), and chloroform (CAS No. 67-66-3).

Hoist means a mechanical device that carries the parts basket and the parts to be cleaned from the loading area into the solvent cleaning machine and to the unloading area at a controlled speed. A hoist may be operated by controls or may be programmed to cycle parts through the cleaning cycle automatically.

Idling mode means the time period when a solvent cleaning machine is not actively cleaning parts and the sump heating coils, if present, are turned on.

Idling-mode cover means any cover or solvent cleaning machine design that allows the cover to shield the cleaning machine openings during the idling mode. A cover that meets this definition can also be used as a working-mode cover if that definition is also met.

Immersion cold cleaning machine means a cold cleaning machine in which the parts are immersed in the solvent when being cleaned. A remote reservoir cold cleaning machine that is also an immersion cold cleaning machine is considered an immersion cold cleaning machine for purposes of this subpart.

In-line cleaning machine or continuous cleaning machine means a solvent cleaning machine that uses an automated parts handling system, typically a conveyor, to automatically provide a continuous supply of parts to be cleaned. These units are fully enclosed except for the conveyor inlet and exit portals. In-line cleaning machines can be either cold or vapor cleaning machines.

Leak-proof coupling means a threaded or other type of coupling that prevents solvents from leaking while filling or draining solvent to and from the solvent cleaning machine.

Lip exhaust means a device installed at the top of the opening of a solvent cleaning machine that draws in air and solvent vapor from the freeboard area and ducts the air and vapor away from the solvent cleaning area.

Monthly reporting period means any calendar month in which the owner or operator of a solvent cleaning machine is required to calculate and report the solvent emissions from each solvent cleaning machine.

New means any solvent cleaning machine the construction or reconstruction of which is commenced after November 29, 1993.

Open-top vapor cleaning machine means a batch solvent cleaning machine that has its upper surface open to the air and boils solvent to create solvent vapor used to clean and/or dry parts.

Part means any object that is cleaned in a solvent cleaning machine. Parts include, but are not limited to, discrete parts, assemblies, sets of parts, and parts cleaned in a continuous web cleaning machine (i.e., continuous sheets of metal, film).

Primary condenser means a series of circumferential cooling coils on a vapor cleaning machine through which a chilled substance is circulated or recirculated to provide continuous condensation of rising solvent vapors and, thereby, create a concentrated solvent vapor zone.

Reduced room draft means decreasing the flow or movement of air across the top of the freeboard area of the solvent cleaning machine to meet the specifications of §63.463(e)(2)(ii). Methods of achieving a reduced room draft include, but are not limited to, redirecting fans and/or air vents to not blow across the cleaning machine, moving the cleaning machine to a corner where there is less room draft, and constructing a partial or complete enclosure around the cleaning machine.

Remote reservoir cold cleaning machine means any device in which liquid solvent is pumped to a sink-like work area that drains solvent back into an enclosed container while parts are being cleaned, allowing no solvent to pool in the work area.

Remote reservoir continuous web cleaning machine means a continuous web cleaning machine in which there is no exposed solvent sump. In these units, the solvent is pumped from an enclosed chamber and is typically applied to the continuous web part through a nozzle or series of nozzles. The solvent then drains from the part and is collected and recycled through the machine, allowing no solvent to pool in the work or cleaning area.

Soils means contaminants that are removed from the parts being cleaned. Soils include, but are not limited to, grease, oils, waxes, metal chips, carbon deposits, fluxes, and tars.

Solvent/air interface means, for a vapor cleaning machine, the location of contact between the concentrated solvent vapor layer and the air. This location of contact is defined as the mid-line height of the primary condenser coils. For a cold cleaning machine, it is the location of contact between the liquid solvent and the air.

Solvent/air interface area means; for a vapor cleaning machine, the surface area of the solvent vapor zone that is exposed to the air; for an in-line cleaning machine, it is the total surface area of all the sumps; for a cold cleaning machine, it is the surface area of the liquid solvent that is exposed to the air.

Solvent cleaning machine means any device or piece of equipment that uses halogenated HAP solvent liquid or vapor to remove soils from the surfaces of materials. Types of solvent cleaning machines include, but are not limited to, batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machines. Buckets, pails, and beakers with capacities of 7.6 liters (2 gallons) or less are not considered solvent cleaning machines.

Solvent vapor zone means; for a vapor cleaning machine, the area that extends from the liquid solvent surface to the level that solvent vapor is condensed. This condensation level is defined as the midline height of the primary condenser coils.

Squeegee system means a system that uses a series of pliable surfaces to remove the solvent film from the surfaces of the continuous web part. These pliable surfaces, called squeegees, are typically made of rubber or plastic media, and need to be periodically replaced to ensure continued proper function.

Sump means the part of a solvent cleaning machine where the liquid solvent is located.

Sump heater coils means the heating system on a cleaning machine that uses steam, electricity, or hot water to heat or boil the liquid solvent.

Superheated part technology means a system that is part of the continuous web process that heats the continuous web part either directly or indirectly to a temperature above the boiling point of the cleaning solvent. This could include a process step, such as a tooling die that heats the part as it is processed, as long as the part remains superheated through the cleaning machine.

Superheated vapor system means a system that heats the solvent vapor, either passively or actively, to a temperature above the solvent's boiling point. Parts are held in the superheated vapor before exiting the machine to evaporate the liquid solvent on them. Hot vapor recycle is an example of a superheated vapor system.

Vapor cleaning machine means a batch or in-line solvent cleaning machine that boils liquid solvent generating solvent vapor that is used as a part of the cleaning or drying cycle.

Water layer means a layer of water that floats above the denser solvent and provides control of solvent emissions. In many cases, the solvent used in batch cold cleaning machines is sold containing the appropriate amount of water to create a water cover.

Working mode means the time period when the solvent cleaning machine is actively cleaning parts.

Working-mode cover means any cover or solvent cleaning machine design that allows the cover to shield the cleaning machine openings from outside air disturbances while parts are being cleaned in the cleaning machine. A cover that is used during the working mode is opened only during parts entry and removal. A cover that meets this definition can also be used as an idling-mode cover if that definition is also met.

[59 FR 61805, Dec. 2, 1994; 60 FR 29485, June 5, 1995, as amended at 63 FR 24751, May 5, 1998; 64 FR 67798, Dec. 3, 1999]

§ 63.462 Batch cold cleaning machine standards.

(a) Each owner or operator of an immersion batch cold solvent cleaning machine shall comply with the requirements specified in paragraph (a)(1) or (a)(2) of this section.

(1) Employ a tightly fitting cover that shall be closed at all times except during parts entry and removal, and a water layer at a minimum thickness of 2.5 centimeters (1.0 inch) on the surface of the solvent within the cleaning machine, or

(2) Employ a tightly fitting cover that shall be closed at all times except during parts entry and removal and a freeboard ratio of 0.75 or greater.

(b) Each owner or operator of a remote-reservoir batch cold solvent cleaning machine shall employ a tightly fitting cover over the solvent sump that shall be closed at all times except during the cleaning of parts.

(c) Each owner or operator of a batch cold solvent cleaning machine complying with paragraph (a)(2) or (b) of this section shall comply with the work and operational practice requirements specified in paragraphs (c)(1) through (c)(9) of this section as applicable.

(1) All waste solvent shall be collected and stored in closed containers. The closed container may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

(2) If a flexible hose or flushing device is used, flushing shall be performed only within the freeboard area of the solvent cleaning machine.

(3) The owner or operator shall drain solvent cleaned parts for 15 seconds or until dripping has stopped, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while draining.

(4) The owner or operator shall ensure that the solvent level does not exceed the fill line.

(5) Spills during solvent transfer shall be wiped up immediately. The wipe rags shall be stored in covered containers meeting the requirements of paragraph (c)(1) of this section.

(6) When an air- or pump-agitated solvent bath is used, the owner or operator shall ensure that the agitator is operated to produce a rolling motion of the solvent but not observable splashing against tank walls or parts being cleaned.

(7) The owner or operator shall ensure that, when the cover is open, the cold cleaning machine is not exposed to drafts greater than 40 meters per minute (132 feet per minute), as measured between 1 and 2 meters (3.3 and 6.6 feet) upwind and at the same elevation as the tank lip.

(8) Except as provided in paragraph (c)(9) of this section, sponges, fabric, wood, and paper products shall not be cleaned.

(9) The prohibition in paragraph (c)(8) of this section does not apply to the cleaning of porous materials that are part of polychlorinated biphenyl (PCB) laden transformers if those transformers are handled throughout the cleaning process and disposed of in compliance with an approved PCB disposal permit issued in accordance with the Toxic Substances Control Act.

(d) Each owner or operator of a batch cold cleaning machine shall submit an initial notification report as described in §63.468 (a) and (b) and a compliance report as described in §63.468(c).

(e) Each owner or operator subject to the requirements of paragraph (c)(1) through (8) of this section may request to use measures other than those described in these paragraphs. The owner or operator must demonstrate to the Administrator (or delegated State, local, or Tribal authority) that the alternative measures will result in equivalent or better emissions control compared to the measures described in paragraphs (c)(1) through (8) of this section. For example, storing solvent and solvent-laden materials in an enclosed area that is ventilated to a solvent recovery or destruction device may be considered an acceptable alternative.

[59 FR 61805, Dec. 2, 1994; 60 FR 29485, June 5, 1995, as amended at 64 FR 67799, Dec. 3, 1999; 68 FR 37349, June 23, 2003]

§ 63.463 Batch vapor and in-line cleaning machine standards.

(a) Except as provided in §63.464 for all cleaning machines, each owner or operator of a solvent cleaning machine subject to the provisions of this subpart shall ensure that each existing or new batch vapor or in-line solvent cleaning machine subject to the provisions of this subpart conforms to the design requirements specified in paragraphs (a)(1) through (7) of this section. The owner or operator of a continuous web cleaning machine shall comply with the requirements of paragraph (g) or (h) of this section, as appropriate, in lieu of complying with this paragraph.

(1) Each cleaning machine shall be designed or operated to meet the control equipment or technique requirements in paragraph (a)(1)(i) or (a)(1)(ii) of this section.

(i) An idling and downtime mode cover, as described in §63.463(d)(1)(i), that may be readily opened or closed, that completely covers the cleaning machine openings when in place, and is free of cracks, holes, and other defects.

(ii) A reduced room draft as described in §63.463(e)(2)(ii).

- (2) Each cleaning machine shall have a freeboard ratio of 0.75 or greater.
- (3) Each cleaning machine shall have an automated parts handling system capable of moving parts or parts baskets at a speed of 3.4 meters per minute (11 feet per minute) or less from the initial loading of parts through removal of cleaned parts.
- (4) Each vapor cleaning machine shall be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils. This requirement does not apply to a vapor cleaning machine that uses steam to heat the solvent.
- (5) Each vapor cleaning machine shall be equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.
- (6) Each vapor cleaning machine shall have a primary condenser.
- (7) Each cleaning machine that uses a lip exhaust shall be designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber that meets the requirements of paragraph (e)(2)(vii) of this section.
- (b) Except as provided in §63.464, each owner or operator of an existing or new batch vapor cleaning machine shall comply with either paragraph (b)(1) or (b)(2) of this section.
 - (1) Each owner or operator of a batch vapor cleaning machine with a solvent/air interface area of 1.21 square meters (13 square feet) or less shall comply with the requirements specified in either paragraph (b)(1)(i) or (b)(1)(ii) of this section.
 - (i) Employ one of the control combinations listed in table 1 of this subpart or other equivalent methods of control as determined using the procedure in §63.469, equivalent methods of control.

Table 1—Control Combinations for Batch Vapor Solvent Cleaning Machines With a Solvent/Air Interface Area of 1.21 Square Meters (13 Square Feet) or Less

Option	Control combinations
1	Working-mode cover, freeboard ratio of 1.0, superheated vapor.
2	Freeboard refrigeration device, superheated vapor.
3	Working-mode cover, freeboard refrigeration device.
4	Reduced room draft, freeboard ratio of 1.0, superheated vapor.
5	Freeboard refrigeration device, reduced room draft.
6	Freeboard refrigeration device, freeboard ratio of 1.0.
7	Freeboard refrigeration device, dwell.
8	Reduced room draft, dwell, freeboard ratio of 1.0.
9	Freeboard refrigeration device, carbon adsorber.
10	Freeboard ratio of 1.0, superheated vapor, carbon adsorber.

Note: Unlike most of the control techniques available for complying with this rule, carbon adsorbers are not considered to be a pollution prevention measure. Use of such units may impose additional cost and burden for a number of reasons. First, carbon adsorption units are generally more expensive than other controls listed in the options. Second, these units may present cross-media impacts such as effluent discharges if not properly operated and maintained, and spent carbon beds have to be disposed of as hazardous waste. When making decisions about what controls to install on halogenated solvent cleaning machines to meet the requirements of this rule, all of these factors should be weighed and pollution prevention measures are encouraged wherever possible.

(ii) Demonstrate that their solvent cleaning machine can achieve and maintain an idling emission limit of 0.22 kilograms per hour per square meter (0.045 pounds per hour per square foot) of solvent/air interface area as determined using the procedures in §63.465(a) and appendix A to this part.

(2) Each owner or operator of a batch vapor cleaning machine with a solvent/air interface area greater than 1.21 square meters (13 square feet) shall comply with the requirements specified in either paragraph (b)(2)(i) or (b)(2)(ii) of this section.

(i) Employ one of the control combinations listed in table 2 of this subpart or other equivalent methods of control as determined using the procedure in §63.469, equivalent methods of control.

Table 2—Control Combinations for Batch Vapor Solvent Cleaning Machines With a Solvent/Air Interface Area Greater than 1.21 Square Meters (13 Square Feet)

Option	Control combinations
1	Freeboard refrigeration device, freeboard ratio of 1.0, superheated vapor.
2	Dwell, freeboard refrigeration device, reduced room draft.
3	Working-mode cover, freeboard refrigeration device, superheated vapor.
4	Freeboard ratio of 1.0, reduced room draft, superheated vapor.
5	Freeboard refrigeration device, reduced room draft, superheated vapor.
6	Freeboard refrigeration device, reduced room draft, freeboard ratio of 1.0.
7	Freeboard refrigeration device, superheated vapor, carbon adsorber.

Note: Unlike most of the control techniques available for complying with this rule, carbon adsorbers are not considered to be a pollution prevention measure. Use of such units may impose additional cost and burden for a number of reasons. First, carbon adsorption units are generally more expensive than other controls listed in the options. Second, these units may present cross-media impacts such as effluent discharges if not properly operated and maintained, and spent carbon beds have to be disposed of as hazardous waste. When making decisions about what controls to install on halogenated solvent cleaning machines to meet the requirements of this rule, all of these factors should be weighed and pollution prevention measures are encouraged wherever possible.

(ii) Demonstrate that their solvent cleaning machine can achieve and maintain an idling emission limit of 0.22 kilograms per hour per square meter (0.045 pounds per hour per square foot) of solvent/air interface area as determined using the procedures in §63.465(a) and appendix A of this part.

(c) Except as provided in §63.464 for all cleaning machines, each owner or operator of an in-line cleaning machine shall comply with paragraph (c)(1) or (2) of this section as appropriate. The owner or operator of a

continuous web cleaning machine shall comply with the requirements of paragraph (g) or (h) of this section, as appropriate, in lieu of complying with this paragraph.

(1) Each owner or operator of an existing in-line cleaning machine shall comply with the requirements specified in either paragraph (c)(1)(i) or (c)(1)(ii) of this section.

(i) Employ one of the control combinations listed in table 3 of this subpart or other equivalent methods of control as determined using the procedure in §63.469, equivalent methods of control.

Table 3—Control Combinations for Existing In-Line Solvent Cleaning Machines

Option	Control combinations
1	Superheated vapor, freeboard ratio of 1.0.
2	Freeboard refrigeration device, freeboard ratio of 1.0.
3	Dwell, freeboard refrigeration device.
4	Dwell, carbon adsorber.

Note: Unlike most of the control techniques available for complying with this rule, carbon adsorbers are not considered to be a pollution prevention measure. Use of such units may impose additional cost and burden for a number of reasons. First, carbon adsorption units are generally more expensive than other controls listed in the options. Second, these units may present cross-media impacts such as effluent discharges if not properly operated and maintained, and spent carbon beds have to be disposed of as hazardous waste. When making decisions about what controls to install on halogenated solvent cleaning machines to meet the requirements of this rule, all of these factors should be weighed and pollution prevention measures are encouraged wherever possible.

(ii) Demonstrate that their solvent cleaning machine can achieve and maintain an idling emission limit of 0.10 kilograms per hour per square meter (0.021 pounds per hour per square foot) of solvent/air interface area as determined using the procedures in §63.465(a) and appendix A to this part.

(2) Each owner or operator of a new in-line cleaning machine shall comply with the requirements specified in either paragraph (c)(2)(i) or (c)(2)(ii) of this section.

(i) Employ one of the control combinations listed in table 4 of this subpart or other equivalent methods of control as determined using the procedure in §63.469, equivalent methods of control section.

Table 4—Control Combinations for New In-Line Solvent Cleaning Machines

Option	Control combinations
1	Superheated vapor, freeboard refrigeration device.
2	Freeboard refrigeration device, carbon adsorber.
3	Superheated vapor, carbon adsorber.

Note: Unlike most of the control techniques available for complying with this rule, carbon adsorbers are not considered to be a pollution prevention measure. Use of such units may impose additional cost and burden for a number of reasons. First, carbon adsorption units are generally more expensive than other controls

listed in the options. Second, these units may present cross-media impacts such as effluent discharges if not properly operated and maintained, and spent carbon beds have to be disposed of as hazardous waste. When making decisions about what controls to install on halogenated solvent cleaning machines to meet the requirements of this rule, all of these factors should be weighed and pollution prevention measures are encouraged wherever possible.

(ii) Demonstrate that their solvent cleaning machine can achieve and maintain an idling emission limit of 0.10 kilograms per hour per square meter (0.021 pounds per hour per square foot) of solvent/air interface area as determined using the procedures in §63.465(a) and appendix A to this part.

(d) Except as provided in §63.464 for all cleaning machines, each owner or operator of an existing or new batch vapor or in-line solvent cleaning machine shall meet all of the following required work and operational practices specified in paragraphs (d)(1) through (12) of this section as applicable. The owner or operator of a continuous web cleaning machine shall comply with the requirements of paragraph (g) or (h) of this section, as appropriate, in lieu of complying with this paragraph.

(1) Control air disturbances across the cleaning machine opening(s) by incorporating the control equipment or techniques in paragraph (d)(1)(i) or (d)(1)(ii) of this section.

(i) Cover(s) to each solvent cleaning machine shall be in place during the idling mode, and during the downtime mode unless either the solvent has been removed from the machine or maintenance or monitoring is being performed that requires the cover(s) to not be in place.

(ii) A reduced room draft as described in §63.463(e)(2)(ii).

(2) The parts baskets or the parts being cleaned in an open-top batch vapor cleaning machine shall not occupy more than 50 percent of the solvent/air interface area unless the parts baskets or parts are introduced at a speed of 0.9 meters per minute (3 feet per minute) or less.

(3) Any spraying operations shall be done within the vapor zone or within a section of the solvent cleaning machine that is not directly exposed to the ambient air (i.e., a baffled or enclosed area of the solvent cleaning machine).

(4) Parts shall be oriented so that the solvent drains from them freely. Parts having cavities or blind holes shall be tipped or rotated before being removed from any solvent cleaning machine unless an equally effective approach has been approved by the Administrator.

(5) Parts baskets or parts shall not be removed from any solvent cleaning machine until dripping has stopped.

(6) During startup of each vapor cleaning machine, the primary condenser shall be turned on before the sump heater.

(7) During shutdown of each vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

(8) When solvent is added or drained from any solvent cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(9) Each solvent cleaning machine and associated controls shall be maintained as recommended by the manufacturers of the equipment or using alternative maintenance practices that have been demonstrated to the Administrator's satisfaction to achieve the same or better results as those recommended by the manufacturer.

(10) Each operator of a solvent cleaning machine shall complete and pass the applicable sections of the test of solvent cleaning procedures in appendix A to this part if requested during an inspection by the Administrator.

(11) Waste solvent, still bottoms, and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that would allow pressure relief, but would not allow liquid solvent to drain from the container.

(12) Sponges, fabric, wood, and paper products shall not be cleaned.

(e) Each owner or operator of a solvent cleaning machine complying with paragraph (b), (c), (g), or (h) of this section shall comply with the requirements specified in paragraphs (e)(1) through (4) of this section.

(1) Conduct monitoring of each control device used to comply with §63.463 of this subpart as provided in §63.466.

(2) Determine during each monitoring period whether each control device used to comply with these standards meets the requirements specified in paragraphs (e)(2)(i) through (xi) of this section.

(i) If a freeboard refrigeration device is used to comply with these standards, the owner or operator shall ensure that the chilled air blanket temperature (in °F), measured at the center of the air blanket, is no greater than 30 percent of the solvent's boiling point.

(ii) If a reduced room draft is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(ii)(A) and (e)(2)(ii)(B) of this section.

(A) Ensure that the flow or movement of air across the top of the freeboard area of the solvent cleaning machine or within the solvent cleaning machine enclosure does not exceed 15.2 meters per minute (50 feet per minute) at any time as measured using the procedures in §63.466(d).

(B) Establish and maintain the operating conditions under which the wind speed was demonstrated to be 15.2 meters per minute (50 feet per minute) or less as described in §63.466(d).

(iii) If a working-mode cover is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(iii)(A) and (e)(2)(iii)(B) of this section.

(A) Ensure that the cover opens only for part entrance and removal and completely covers the cleaning machine openings when closed.

(B) Ensure that the working-mode cover is maintained free of cracks, holes, and other defects.

(iv) If an idling-mode cover is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(iv)(A) and (e)(2)(iv)(B) of this section.

(A) Ensure that the cover is in place whenever parts are not in the solvent cleaning machine and completely covers the cleaning machine openings when in place.

(B) Ensure that the idling-mode cover is maintained free of cracks, holes, and other defects.

(v) If a dwell is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(v)(A) and (e)(2)(v)(B) of this section.

(A) Determine the appropriate dwell time for each type of part or parts basket, or determine the maximum dwell time using the most complex part type or parts basket, as described in §63.465(d).

(B) Ensure that, after cleaning, each part is held in the solvent cleaning machine freeboard area above the vapor zone for the dwell time determined for that particular part or parts basket, or for the maximum dwell time determined using the most complex part type or parts basket.

(vi) If a superheated vapor system is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(vi)(A) through (e)(2)(vi)(C) of this section.

(A) Ensure that the temperature of the solvent vapor at the center of the superheated vapor zone is at least 10 °F above the solvent's boiling point.

(B) Ensure that the manufacturer's specifications for determining the minimum proper dwell time within the superheated vapor system is followed.

(C) Ensure that parts remain within the superheated vapor for at least the minimum proper dwell time.

(vii) If a carbon adsorber in conjunction with a lip exhaust or other exhaust internal to the cleaning machine is used to comply with these standards, the owner or operator shall comply with the following requirements:

(A) Ensure that the concentration of organic solvent in the exhaust from this device does not exceed 100 parts per million of any halogenated HAP compound as measured using the procedure in §63.466(e). If the halogenated HAP solvent concentration in the carbon adsorber exhaust exceeds 100 parts per million, the owner or operator shall adjust the desorption schedule or replace the disposable canister, if not a regenerative system, so that the exhaust concentration of halogenated HAP solvent is brought below 100 parts per million.

(B) Ensure that the carbon adsorber bed is not bypassed during desorption.

(C) Ensure that the lip exhaust is located above the solvent cleaning machine cover so that the cover closes below the lip exhaust level.

(viii) If a superheated part system is used to comply with the standards for continuous web cleaning machines in paragraph (g) of this section, the owner or operator shall ensure that the temperature of the continuous web part is at least 10 degrees Fahrenheit above the solvent boiling point while the part is traveling through the cleaning machine.

(ix) If a squeegee system is used to comply with the continuous web cleaning requirements of paragraph (g)(3)(iii) or (h)(2)(i) of this section, the owner or operator shall comply with the following requirements.

(A) Determine the appropriate maximum product throughput for the squeegees used in the squeegee system, as described in §63.465(f).

(B) Conduct the weekly monitoring required by §63.466(a)(3). Record the results required by §63.467(a)(6).

(C) Calculate the total amount of continuous web product processed since the squeegees were replaced and compare to the maximum product throughput for the squeegees.

(D) Ensure squeegees are replaced at or before the maximum product throughput is attained.

(E) Redetermine the maximum product throughput for the squeegees if any solvent film is visible on the continuous web part immediately after it exits the cleaning machine.

(x) If an air knife system is used to comply with the continuous web cleaning requirements of paragraph (g)(3)(iii) or (h)(2)(i) of this section, the owner or operator shall comply with the following requirements.

(A) Determine the air knife parameter and parameter value that demonstrate to the Administrator's satisfaction that the air knife is properly operating. An air knife is properly operating if no visible solvent film remains on the continuous web part after it exits the cleaning machine.

(B) Maintain the selected air knife parameter value at the level determined in paragraph (a) of this section.

(C) Conduct the weekly monitoring required by §63.466(a)(3).

(D) Redetermine the proper air knife parameter value if any solvent film is visible on the continuous web part immediately after it exits the cleaning machine.

(xi) If a combination squeegee and air knife system is used to comply with the continuous web cleaning requirements of paragraph (g)(3)(iii) or (h)(2)(i) of this section, the owner or operator shall comply with the following requirements.

(A) Determine the system parameter and value that demonstrate to the Administrator's satisfaction that the system is properly operating.

(B) Maintain the selected parameter value at the level determined in paragraph (a) of this section.

(C) Conduct the weekly monitoring required by §63.466(a)(3).

(D) Redetermine the proper parameter value if any solvent film is visible on the continuous web part immediately after it exits the cleaning machine.

(3) If any of the requirements of paragraph (e)(2) of this section are not met, determine whether an exceedance has occurred using the criteria in paragraphs (e)(3)(i) and (e)(3)(ii) of this section.

(i) An exceedance has occurred if the requirements of paragraphs (e)(2)(ii)(B), (e)(2)(iii)(A), (e)(2)(iv)(A), (e)(2)(v), (e)(2)(vi)(B), (e)(2)(vi)(C), (e)(2)(vii)(B), or (e)(2)(vii)(C) of this section have not been met.

(ii) An exceedance has occurred if the requirements of paragraphs (e)(2)(i), (e)(2)(ii)(A), (e)(2)(iii)(B), (e)(2)(iv)(B), (e)(2)(vi)(A), or (e)(2)(vii)(A) of this section have not been met and are not corrected within 15 days of detection. Adjustments or repairs shall be made to the solvent cleaning system or control device to reestablish required levels. The parameter must be remeasured immediately upon adjustment or repair and demonstrated to be within required limits.

(4) The owner or operator shall report all exceedances and all corrections and adjustments made to avoid an exceedance as specified in §63.468(h).

(f) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the idling emission limit standards in paragraphs (b)(1)(ii), (b)(2)(ii), (c)(1)(ii), or (c)(2)(ii) of this section shall comply with the requirements specified in paragraphs (f)(1) through (f)(5) of this section.

(1) Conduct an initial performance test to comply with the requirements specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this section.

(i) Demonstrate compliance with the applicable idling emission limit.

(ii) Establish parameters that will be monitored to demonstrate compliance. If a control device is used that is listed in paragraph (e)(2) of this section, then the requirements for that control device as listed in paragraph (e)(2) of this section shall be used unless the owner or operator can demonstrate to the Administrator's satisfaction that an alternative strategy is equally effective.

(2) Conduct the periodic monitoring of the parameters used to demonstrate compliance as described in §63.466(f).

(3) Operate the solvent cleaning machine within parameters identified in the initial performance test.

(4) If any of the requirements in paragraphs (f)(1) through (f)(3) of this section are not met, determine whether an exceedance has occurred using the criteria in paragraphs (f)(4)(i) and (f)(4)(ii) of this section.

(i) If using a control listed in paragraph (e) of this section, the owner or operator shall comply with the appropriate parameter values in paragraph (e)(2) and the exceedance delineations in paragraphs (e)(3)(i) and (e)(3)(ii) of this section.

(ii) If using a control not listed in paragraph (e) of this section, the owner or operator shall indicate whether the exceedance of the parameters that are monitored to determine the proper functioning of this control would be classified as an immediate exceedance or whether a 15 day repair period would be allowed. This information must be submitted to the Administrator for approval.

(5) The owner or operator shall report all exceedances and all corrections and adjustments made to avoid an exceedance as specified in §63.468(h).

(g) Except as provided in §63.464 and in paragraph (h) of this section for remote reservoir continuous web cleaning machines, each owner or operator of a continuous web cleaning machine shall comply with paragraphs (g)(1) through (4) of this section for each continuous web cleaning machine.

(1) Except as provided in paragraph (g)(2) of this section, install, maintain, and operate one of the following control combinations on each continuous web cleaning machine.

(i) For each existing continuous web cleaning machine, the following control combinations are allowed:

(A) Superheated vapor or superheated part technology, and a freeboard ratio of 1.0 or greater.

(B) Freeboard refrigeration device and a freeboard ratio of 1.0 or greater.

(C) Carbon adsorption system meeting the requirements of paragraph (e)(2)(vii) of this section.

(ii) For each new continuous web cleaning machine, the following control combinations are allowed:

(A) Superheated vapor or superheated part technology, and a freeboard refrigeration device.

(B) A freeboard refrigeration device and a carbon adsorber meeting the requirements of paragraph (e)(2)(vii) of this section.

(C) Superheated vapor or superheated part technology, and a carbon adsorber meeting the requirements of paragraph (e)(2)(vii) of this section.

(2) If a carbon adsorber system can be demonstrated to the Administrator's satisfaction to have an overall solvent control efficiency (i.e., capture efficiency removal efficiency) of 70 percent or greater, this system is equivalent to the options in paragraph (g) of this section.

(3) In lieu of complying with the provisions of paragraph (a) of this section, the owner or operator of a continuous web cleaning machine shall comply with the following provisions:

(i) Each cleaning machine shall meet one of the following control equipment or technique requirements:

(A) An idling and downtime mode cover, as described in paragraph (d)(1)(i) of this section, that may be readily opened or closed; that completely covers the cleaning machine openings when in place; and is free of cracks, holes, and other defects. A continuous web part that completely occupies an entry or exit port when the machine is idle is considered to meet this requirement.

(B) A reduced room draft as described in paragraph (e)(2)(ii) of this section.

(C) Gasketed or leakproof doors that separate both the continuous web part feed reel and take-up reel from the room atmosphere if the doors are checked according to the requirements of paragraph (e)(2)(iii) of this section.

(D) A cleaning machine that is demonstrated to the Administrator's satisfaction to be under negative pressure during idling and downtime and is vented to a carbon adsorption system that meets the requirements of either paragraph (e)(2)(vii) of this section or paragraph (g)(2) of this section.

(ii) Each continuous web cleaning machine shall have a freeboard ratio of 0.75 or greater unless that cleaning machine is a remote reservoir continuous web cleaning machine.

(iii) Each cleaning machine shall have an automated parts handling system capable of moving parts or parts baskets at a speed of 3.4 meters per minute (11 feet per minute) or less from the initial loading of parts through removal of cleaned parts, unless the cleaning machine is a continuous web cleaning machine that has a squeegee system or air knife system installed, maintained, and operated on the continuous web cleaning machine meeting the requirements of paragraph (e) of this section.

(iv) Each vapor cleaning machine shall be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils. This requirement does not apply to a vapor cleaning machine that uses steam to heat the solvent.

(v) Each vapor cleaning machine shall be equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

(vi) Each vapor cleaning machine shall have a primary condenser.

(vii) Each cleaning machine that uses a lip exhaust or any other exhaust within the solvent cleaning machine shall be designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber that meets the requirements of either paragraph (e)(2)(vii) or (g)(2) of this section.

(4) In lieu of complying with the provisions of paragraph (d) of this section, the owner or operator of a continuous web cleaning machine shall comply with the following provisions:

(i) Control air disturbances across the cleaning machine opening(s) by incorporating one of the following control equipment or techniques:

(A) Cover(s) to each solvent cleaning machine shall be in place during the idling mode and during the downtime mode unless either the solvent has been removed from the machine or maintenance or monitoring is being performed that requires the cover(s) in place. A continuous web part that completely occupies an entry or exit port when the machine is idle is considered to meet this requirement.

(B) A reduced room draft as described in paragraph (e)(2)(ii) of this section.

(C) Gasketed or leakproof doors or covers that separate both the continuous web part feed reel and take-up reel from the room atmosphere if the doors are checked according to the requirements of paragraph (e)(2)(iii) of this section.

(D) A cleaning machine that is demonstrated to the Administrator's satisfaction to be under negative pressure during idling and downtime and is vented to a carbon adsorption system that meets either the requirements of paragraph (e)(2)(vii) of this section or paragraph (g)(2) of this section.

(ii) Any spraying operations shall be conducted in a section of the solvent cleaning machine that is not directly exposed to the ambient air (i.e., a baffled or enclosed area of the solvent cleaning machine) or within a machine having a door or cover that meets the requirements of paragraph (g)(4)(i)(C) of this section.

(iii) During startup of each vapor cleaning machine, the primary condenser shall be turned on before the sump heater.

(iv) During shutdown of each vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

(v) When solvent is added or drained from any solvent cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings, and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(vi) Each solvent cleaning machine and associated controls shall be maintained as recommended by the manufacturers of the equipment or using alternative maintenance practices that have been demonstrated to the Administrator's satisfaction to achieve the same or better results as those recommended by the manufacturer.

(vii) Waste solvent, still bottoms, sump bottoms, and waste absorbent materials used in the cleaning process for continuous web cleaning machines shall be collected and stored in waste containers. The closed containers may contain a device that would allow pressure relief, but would not allow liquid solvent to drain from the container.

(viii) Except as provided in paragraph (g)(4)(ix) of this section, sponges, fabric, wood, and paper products shall not be cleaned.

(ix) The prohibition in paragraph (g)(4)(viii) of this section does not apply to absorbent materials that are used as part of the cleaning process of continuous web cleaning machines, including rollers and roller covers.

(h) Except as provided in §63.464, each owner or operator of a remote reservoir continuous web cleaning machine shall comply with paragraphs (h)(1) through (4) of this section.

(1) Except as provided in paragraph (h)(2) of this section, install, maintain, and operate one of the following controls on each new remote reservoir continuous web cleaning machine.

(i) Superheated vapor or superheated part technology.

(ii) A carbon adsorber meeting the requirements of paragraph (e)(2)(vii) of this section.

(iii) If a carbon adsorber system can be demonstrated to the Administrator's satisfaction to have an overall solvent control efficiency (i.e., capture efficiency removal efficiency) of 70 percent or greater, this system is equivalent to the options in paragraphs (h)(1)(i) and (h)(1)(ii) of this section.

(2) In lieu of complying with the provisions of paragraph (a) of this section, the owner or operator of a remote reservoir continuous web cleaning machine shall comply with the following provisions:

(i) Each cleaning machine shall have an automated parts handling system capable of moving parts or parts baskets at a speed of 3.4 meters per minute (11 feet per minute) or less from the initial loading of parts through removal of cleaned parts, unless the cleaning machine is a continuous web cleaning machine that

has a squeegee system or air knife system installed, maintained, and operated on the continuous web cleaning machine meeting the requirements of paragraph (e) of this section.

(ii) Each vapor cleaning machine shall be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.

(iii) Each vapor cleaning machine shall be equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

(iv) Each vapor cleaning machine shall have a primary condenser.

(v) Each cleaning machine that uses a lip exhaust or any other exhaust within the solvent cleaning machine shall be designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber that meets the requirements of either paragraph (e)(2)(vii) or (g)(2) of this section.

(3) In lieu of complying with the provisions of paragraph (d) of this section, the owner or operator of a remote reservoir continuous web cleaning machine shall comply with the following provisions:

(i) Any spraying operations shall be conducted in a section of the solvent cleaning machine that is not directly exposed to the ambient air (i.e., a baffled or enclosed area of the solvent cleaning machine) or within a machine having a door or cover that meets the requirements of paragraph (g)(4)(i)(C) of this section.

(ii) During startup of each vapor cleaning machine, the primary condenser shall be turned on before the sump heater.

(iii) During shutdown of each vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

(iv) When solvent is added or drained from any solvent cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings, and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(v) Each solvent cleaning machine and associated controls shall be maintained as recommended by the manufacturers of the equipment or using alternative maintenance practices that have been demonstrated to the Administrator's satisfaction to achieve the same or better results as those recommended by the manufacturer.

(vi) Waste solvent, still bottoms, sump bottoms, and waste absorbent materials used in the cleaning process for continuous web cleaning machines shall be collected and stored in waste containers. The closed containers may contain a device that would allow pressure relief, but would not allow liquid solvent to drain from the container.

(vii) Except as provided in paragraph (h)(3)(viii) of this section, sponges, fabric, wood, and paper products shall not be cleaned.

(viii) The prohibition in paragraph (h)(3)(vii) of this section does not apply to absorbent materials that are used as part of the cleaning process of continuous web cleaning machines, including rollers and roller covers.

[59 FR 61805, Dec. 2, 1994; 60 FR 29485, June 5, 1995, as amended at 64 FR 67799, Dec. 3, 1999; 65 FR 54422, Sept. 8, 2000; 68 FR 37349, June 23, 2003]

§ 63.464 Alternative standards.

(a) As an alternative to meeting the requirements in §63.463, each owner or operator of a batch vapor or in-line solvent cleaning machine can elect to comply with the requirements of §63.464. An owner or operator of a solvent cleaning machine who elects to comply with §63.464 shall comply with the requirements specified in either paragraph (a)(1) or (a)(2) of this section.

(1) If the cleaning machine has a solvent/air interface, as defined in §63.461, the owner or operator shall comply with the requirements specified in paragraphs (a)(1)(i) and (a)(1)(ii) of this section.

(i) Maintain a log of solvent additions and deletions for each solvent cleaning machine.

(ii) Ensure that the emissions from each solvent cleaning machine are equal to or less than the applicable emission limit presented in table 5 of this subpart as determined using the procedures in §63.465(b) and (c).

Table 5—Emission Limits for Batch Vapor and In-Line Solvent Cleaning Machines With a Solvent/Air Interface

Solvent cleaning machine	3-month rolling average monthly emission limit (kilograms/square meters/month)
Batch vapor solvent cleaning machines	150
Existing in-line solvent cleaning machines	153
New in-line solvent cleaning machines	99

(2) If the cleaning machine is a batch vapor cleaning machine and does not have a solvent/air interface, the owner or operator shall comply with the requirements specified in paragraphs (a)(2)(i) and (a)(2)(ii) of this section.

(i) Maintain a log of solvent additions and deletions for each solvent cleaning machine.

(ii) Ensure that the emissions from each solvent cleaning machine are equal to or less than the appropriate limits as described in paragraphs (a)(2)(ii)(A) and (a)(2)(ii)(B) of this section.

(A) For cleaning machines with a cleaning capacity, as reported in §63.468(d), that is less than or equal to 2.95 cubic meters, the emission limit shall be determined using table 6 or equation 1. If using table 6, and the cleaning capacity of the cleaning machine falls between two cleaning capacity sizes, then the lower of the two emission limits applies.

(B) For cleaning machines with a cleaning capacity as reported in §63.468(d), that is greater than 2.95 cubic meters, the emission limit shall be determined using equation 1.

$$EL = 330 * (Vol)^{0.6} \quad (1)$$

where:

EL = the 3-month rolling average monthly emission limit (kilograms/month).

Table 6—Emission Limits for Cleaning Machines Without a Solvent/Air Interface

Cleaning capacity (cubic meters)	3-month rolling average monthly emission limit (kilograms/month)
0.00	0
0.05	55
0.10	83
0.15	106
0.20	126
0.25	144
0.30	160
0.35	176
0.40	190
0.45	204
0.50	218
0.55	231
0.60	243
0.65	255
0.70	266
0.75	278
0.80	289
0.85	299
0.90	310
0.95	320
1.00	330
1.05	340
1.10	349
1.15	359
1.20	368

1.25	377
1.30	386
1.35	395
1.40	404
1.45	412
1.50	421
1.55	429
1.60	438
1.65	446
1.70	454
1.75	462
1.80	470
1.85	477
1.90	485
1.95	493
2.00	500
2.05	508
2.10	515
2.15	522
2.20	530
2.25	537
2.30	544
2.35	551
2.40	558
2.45	565
2.50	572
2.55	579

2.60	585
2.65	592
2.70	599
2.75	605
2.80	612
2.85	619
2.90	625
2.95	632

Vol = the cleaning capacity of the solvent cleaning machine (cubic meters).

(b) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with §63.464(a) shall demonstrate compliance with the applicable 3-month rolling average monthly emission limit on a monthly basis as described in §63.465(b) and (c).

(c) If the applicable 3-month rolling average emission limit is not met, an exceedance has occurred. All exceedances shall be reported as required in §63.468(h).

(d) As an alternative to meeting the requirements in §63.463, each owner or operator of a continuous web cleaning machine can demonstrate an overall cleaning system control efficiency of 70 percent or greater using the procedures in §63.465(g). This demonstration can be made for either a single cleaning machine or for a solvent cleaning system that contains one or more cleaning machines and ancillary equipment, such as storage tanks and distillation units. If the demonstration is made for a cleaning system, the facility must identify any modifications required to the procedures in §63.465(g) and they must be approved by the Administrator.

[59 FR 61805, Dec. 2, 1994, as amended at 64 FR 67801, Dec. 3, 1999; 65 FR 54423, Sept. 8, 2000]

§ 63.465 Test methods.

(a) Except as provided in paragraphs (f) and (g) of this section for continuous web cleaning machines, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with an idling emission limit standard in §63.463(b)(1)(ii), (b)(2)(ii), (c)(1)(ii), or (c)(2)(ii) shall determine the idling emission rate of the solvent cleaning machine using Reference Method 307 in appendix A of this part.

(b) Except as provided in paragraph (g) of this section for continuous web cleaning machines, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with §63.464 shall, on the first operating day of every month ensure that the solvent cleaning machine system contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent, and used solvent that has been cleaned of soils. A fill line must be indicated during the first month the measurements are made. The solvent level within the machine must be returned to the same fill-line each month, immediately prior to calculating monthly emissions as specified in paragraph (c) of this section. The solvent cleaning machine does not have to be emptied and filled with fresh unused solvent prior to the calculations.

(c) Except as provided in paragraphs (f) and (g) of this section for continuous web cleaning machines, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with §63.464 shall, on the

first operating day of the month, comply with the requirements specified in paragraphs (c)(1) through (3) of this section.

(1) Using the records of all solvent additions and deletions for the previous monthly reporting period required under §63.464(a), determine solvent emissions (E_i) using equation 2 for cleaning machines with a solvent/air interface and equation 3 for cleaning machines without a solvent/air interface:

$$E_i = \frac{SA_i - LSR_i - SSR_i}{AREA_i} \quad (2) \quad E_n = SA_i - LSR_i - SSR_i \quad (3)$$

where:

E_i = the total halogenated HAP solvent emissions from the solvent cleaning machine during the most recent monthly reporting period i , (kilograms of solvent per square meter of solvent/air interface area per month).

E_n = the total halogenated HAP solvent emissions from the solvent cleaning machine during the most recent monthly reporting period i , (kilograms of solvent per month).

SA_i = the total amount of halogenated HAP liquid solvent added to the solvent cleaning machine during the most recent monthly reporting period i , (kilograms of solvent per month).

LSR_i = the total amount of halogenated HAP liquid solvent removed from the solvent cleaning machine during the most recent monthly reporting period i , (kilograms of solvent per month).

SSR_i = the total amount of halogenated HAP solvent removed from the solvent cleaning machine in solid waste, obtained as described in paragraph (c)(2) of this section, during the most recent monthly reporting period i , (kilograms of solvent per month).

$AREA_i$ = the solvent/air interface area of the solvent cleaning machine (square meters).

(2) Determine SSR_i using the method specified in paragraph (c)(2)(i) or (c)(2)(ii) of this section.

(i) From tests conducted using EPA reference method 25d.

(ii) By engineering calculations included in the compliance report.

(3) Determine the monthly rolling average, EA , for the 3-month period ending with the most recent reporting period using equation 4 for cleaning machines with a solvent/air interface or equation 5 for cleaning machines without a solvent/air interface:

$$EA_i = \frac{\sum_{j=1}^3 E_i}{3} \quad (4) \quad EA_n = \frac{\sum_{j=1}^3 E_n}{3} \quad (5)$$

Where:

EA_i = the average halogenated HAP solvent emissions over the preceding 3 monthly reporting periods, (kilograms of solvent per square meter of solvent/air interface area per month).

EA_n =the average halogenated HAP solvent emissions over the preceding 3 monthly reporting periods (kilograms of solvent per month).

E_j =halogenated HAP solvent emissions for each month (j) for the most recent 3 monthly reporting periods (kilograms of solvent per square meter of solvent/air interface area).

E_n =halogenated HAP solvent emissions for each month (j) for the most recent 3 monthly reporting periods (kilograms of solvent per month).

$j=1$ = the most recent monthly reporting period.

$j=2$ = the monthly reporting period immediately prior to $j=1$.

$j=3$ = the monthly reporting period immediately prior to $j=2$.

(d) Each owner or operator of a batch vapor or in-line solvent cleaning machine using a dwell to comply with §63.463 shall determine the appropriate dwell time for each part or parts basket using the procedure specified in paragraphs (d)(1) and (d)(2) of this section.

(1) Determine the amount of time for the part or parts basket to cease dripping once placed in the vapor zone. The part or parts basket used for this determination must be at room temperature before being placed in the vapor zone.

(2) The proper dwell time for parts to remain in the freeboard area above the vapor zone is no less than 35 percent of the time determined in paragraph (d)(1) of this section.

(e) An owner or operator of a source shall determine their potential to emit from all solvent cleaning operations, using the procedures described in paragraphs (e)(1) through (e)(3) of this section. A facility's total potential to emit is the sum of the HAP emissions from all solvent cleaning operations, plus all HAP emissions from other sources within the facility.

(1) Determine the potential to emit for each individual solvent cleaning using equation 6.

$$PTE_i = H_i \times W_i \times SAI_i \quad (6)$$

Where:

PTE_i =the potential to emit for solvent cleaning machine i (kilograms of solvent per year).

H_i =hours of operation for solvent cleaning machine i (hours per year).

=8760 hours per year, unless otherwise restricted by a Federally enforceable requirement.

W_i =the working mode uncontrolled emission rate (kilograms per square meter per hour).

=1.95 kilograms per square meter per hour for batch vapor and cold cleaning machines.

=1.12 kilograms per square meter per hour for in-line cleaning machines.

SAI_i = solvent/air interface area of solvent cleaning machine i (square meters). Section 63.461 defines the solvent/air interface area for those machines that have a solvent/air interface.

Cleaning machines that do not have a solvent/air interface shall calculate a solvent/air interface area using the procedure in paragraph (e)(2) of this section.

(2) Cleaning machines that do not have a solvent/air interface shall calculate a solvent/air interface area using equation 7.

$$SAI=2.20 * (Vol)^{0.6} \quad (7)$$

Where:

SAI=the solvent/air interface area (square meters).

Vol=the cleaning capacity of the solvent cleaning machine (cubic meters).

(3) Sum the PTE for all solvent cleaning operations to obtain the total potential to emit for solvent cleaning operations at the facility.

(f) Each owner or operator of a continuous web cleaning machine using a squeegee system to comply with §63.463(g)(3) shall determine the maximum product throughput using the method in this paragraph. The maximum product throughput for each squeegee type used at a facility must be determined prior to December 2, 1999, the compliance date for these units.

(1) Conduct daily visual inspections of the continuous web part. This monitoring shall be conducted at the point where the continuous web part exits the squeegee system. It is not necessary for the squeegees to be new at the time monitoring is begun if the following two conditions are met:

(i) The continuous web part leaving the squeegee system has no visible solvent film.

(ii) The amount of continuous web that has been processed through the squeegees since the last replacement is known.

(2) Continue daily monitoring until a visible solvent film is noted on the continuous web part.

(3) Determine the length of continuous web product that has been cleaned using the squeegee since it was installed.

(4) The maximum product throughput for the purposes of this rule is equal to the time it takes to clean 95 percent of the length of product determined in paragraph (f)(3) of this section. This time period, in days, may vary depending on the amount of continuous web product cleaned each day.

(g) Each owner or operator of a continuous web cleaning machine demonstrating compliance with the alternative standard of §63.464(d) shall, on the first day of every month, ensure that the solvent cleaning machine contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent, and used solvent that has been cleaned of soils. A fill-line must be indicated during the first month the measurements are made. The solvent level with the machine must be returned to the same fill-line each month, immediately prior to calculating overall cleaning system control efficiency emissions as specified in paragraph (h) in this section. The solvent cleaning machine does not need to be emptied and filled with fresh unused solvent prior to the calculation.

(h) Each owner or operator of a continuous web cleaning machines complying with §63.464(d) shall, on the first operating day of the month, comply with the following requirements.

(1) Using the records of all solvent additions, solvent deletions, and solvent recovered from the carbon adsorption system for the previous monthly reporting period required under §63.467(e), determine the overall cleaning system control efficiency (E_o) using Equation 8 of this section as follows:

$$E_o = R_i / (R_i + Sa_i - SSR_i) \quad (\text{Eq. 8})$$

Where:

E_o = overall cleaning system control efficiency.

R_i = the total amount of halogenated HAP liquid solvent recovered from the carbon adsorption system and recycled to the solvent cleaning system during the most recent monthly reporting period, i , (kilograms of solvent per month).

Sa_i = the total amount of halogenated HAP liquid solvent added to the solvent cleaning system during the most recent monthly reporting period, i , (kilograms of solvent per month).

SSR_i = the total amount of halogenated HAP solvent removed from the solvent cleaning system in solid waste, obtained as described in paragraph (c)(2) of this section, during the most recent monthly reporting period, i , (kilograms of solvent per month).

[59 FR 61805, Dec. 2, 1994, as amended at 64 FR 67801, Dec. 3, 1999; 65 FR 54423, Sept. 8, 2000]

§ 63.466 Monitoring procedures.

(a) Except as provided in paragraph (g) of this section, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the equipment standards in §63.463(b)(1)(i), (b)(2)(i), (c)(1)(i), (c)(2)(i), (g)(1), or (g)(2) shall conduct monitoring and record the results on a weekly basis for the control devices, as appropriate, specified in paragraphs (a)(1) through (5) of this section.

(1) If a freeboard refrigeration device is used to comply with these standards, the owner or operator shall use a thermometer or thermocouple to measure the temperature at the center of the air blanket during the idling mode.

(2) If a superheated vapor system is used to comply with these standards, the owner or operator shall use a thermometer or thermocouple to measure the temperature at the center of the superheated solvent vapor zone while the solvent cleaning machine is in the idling mode.

(3) If a squeegee system, air knife system, or combination squeegee and air knife system is used to comply with the requirements of §63.463(g) or (h), the owner or operator shall visually inspect the continuous web part exiting the solvent cleaning machine to ensure that no solvent film is visible on the part.

(4) Except as provided in paragraph (a)(5) of this section, if a superheated part system is used to comply with the requirements of §63.463(g) or (h), the owner or operator shall use a thermometer, thermocouple, or other temperature measurement device to measure the temperature of the continuous web part while it is in the solvent cleaning machine. This measurement can also be taken at the exit of the solvent cleaning machine.

(5) As an alternative to complying with paragraph (a)(4) of this section, the owner or operator can provide data, sufficient to satisfy the Administrator, that demonstrate that the part temperature remains above the boiling point of the solvent at all times that the part is within the continuous web solvent cleaning machine. This data could include design and operating conditions such as information supporting any exothermic reaction inherent in the processing.

(b) Except as provided in paragraph (g) of this section, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the equipment standards of §63.463 (b)(1)(i), (b)(2)(i), (c)(1)(i), or (c)(2)(i) shall conduct monitoring and record the results on a monthly basis for the control devices, as appropriate, specified in paragraphs (b)(1) and (b)(2) of this section.

(1) If a cover (working-mode, downtime-mode, and/or idling-mode cover) is used to comply with these standards, the owner or operator shall conduct a visual inspection to determine if the cover is opening and closing properly, completely covers the cleaning machine openings when closed, and is free of cracks, holes, and other defects.

(2) If a dwell is used, the owner or operator shall determine the actual dwell time by measuring the period of time that parts are held within the freeboard area of the solvent cleaning machine after cleaning.

(c) Except as provided in paragraph (g) of this section, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the equipment or idling standards in §63.463 shall monitor the hoist speed as described in paragraphs (c)(1) through (c)(4) of this section.

(1) The owner or operator shall determine the hoist speed by measuring the time it takes for the hoist to travel a measured distance. The speed is equal to the distance in meters divided by the time in minutes (meters per minute).

(2) The monitoring shall be conducted monthly. If after the first year, no exceedances of the hoist speed are measured, the owner or operator may begin monitoring the hoist speed quarterly.

(3) If an exceedance of the hoist speed occurs during quarterly monitoring, the monitoring frequency returns to monthly until another year of compliance without an exceedance is demonstrated.

(4) If an owner or operator can demonstrate to the Administrator's satisfaction in the initial compliance report that the hoist cannot exceed a speed of 3.4 meters per minute (11 feet per minute), the required monitoring frequency is quarterly, including during the first year of compliance.

(d) Except as provided in paragraph (g) of this section, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the equipment standards in §63.463 (b)(1)(i), (b)(2)(i), (c)(1)(i), or (c)(2)(i) using a reduced room draft shall conduct monitoring and record the results as specified in paragraph(d)(1) or (d)(2) of this section.

(1) If the reduced room draft is maintained by controlling room parameters (i.e., redirecting fans, closing doors and windows, etc.), the owner or operator shall conduct an initial monitoring test of the windspeed and of room parameters, quarterly monitoring of windspeed, and weekly monitoring of room parameters as specified in paragraphs (d)(1)(i) and (d)(1)(ii) of this section.

(i) Measure the windspeed within 6 inches above the top of the freeboard area of the solvent cleaning machine using the procedure specified in paragraphs (d)(1)(i)(A) through (d)(1)(i)(D) of this section.

(A) Determine the direction of the wind current by slowly rotating a velometer or similar device until the maximum speed is located.

(B) Orient a velometer in the direction of the wind current at each of the four corners of the machine.

(C) Record the reading for each corner.

(D) Average the values obtained at each corner and record the average wind speed.

(ii) Monitor on a weekly basis the room parameters established during the initial compliance test that are used to achieve the reduced room draft.

(2) If an enclosure (full or partial) is used to achieve a reduced room draft, the owner or operator shall conduct an initial monitoring test and, thereafter, monthly monitoring tests of the windspeed within the enclosure using the procedure specified in paragraphs (d)(2)(i) and (d)(2)(ii) of this section and a monthly visual inspection of the enclosure to determine if it is free of cracks, holes and other defects.

(i) Determine the direction of the wind current in the enclosure by slowly rotating a velometer inside the entrance to the enclosure until the maximum speed is located.

(ii) Record the maximum wind speed.

(e) Except as provided in paragraph (g) of this section, each owner or operator using a carbon adsorber to comply with this subpart shall measure and record the concentration of halogenated HAP solvent in the exhaust of the carbon adsorber weekly with a colorimetric detector tube. This test shall be conducted while the solvent cleaning machine is in the working mode and is venting to the carbon adsorber. The exhaust concentration shall be determined using the procedure specified in paragraphs (e)(1) through (e)(3) of this section.

(1) Use a colorimetric detector tube designed to measure a concentration of 100 parts per million by volume of solvent in air to an accuracy of ± 25 parts per million by volume.

(2) Use the colorimetric detector tube according to the manufacturer's instructions.

(3) Provide a sampling port for monitoring within the exhaust outlet of the carbon adsorber that is easily accessible and located at least 8 stack or duct diameters downstream from any flow disturbance such as a bend, expansion, contraction, or outlet; downstream from no other inlet; and 2 stack or duct diameters upstream from any flow disturbance such as a bend, expansion, contraction, inlet or outlet.

(f) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the idling emission limit standards of §63.463 (b)(1)(ii), (b)(2)(ii), (c)(1)(ii), or (c)(2)(ii) shall comply with the requirements specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If using controls listed in paragraphs (a) through (e) of this section, the owner or operator shall comply with the monitoring frequency requirements in paragraphs (a) through (e) of this section.

(2) If using controls not listed in paragraphs (a) through (e) of this section, the owner or operator shall establish the monitoring frequency for each control and submit it to the Administrator for approval in the initial test report.

(g) Each owner or operator using a control device listed in paragraphs (a) through (e) of this section can use alternative monitoring procedures approved by the Administrator.

[59 FR 61805, Dec. 2, 1994, as amended at 64 FR 67802, Dec. 3, 1999]

§ 63.467 Recordkeeping requirements.

(a) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of §63.463 shall maintain records in written or electronic form specified in paragraphs (a)(1) through (7) of this section for the lifetime of the machine.

(1) Owner's manuals, or if not available, written maintenance and operating procedures, for the solvent cleaning machine and control equipment.

(2) The date of installation for the solvent cleaning machine and all of its control devices. If the exact date for installation is not known, a letter certifying that the cleaning machine and its control devices were installed prior to, or on, November 29, 1993, or after November 29, 1993, may be substituted.

(3) If a dwell is used to comply with these standards, records of the tests required in §63.465(d) to determine an appropriate dwell time for each part or parts basket.

(4) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the idling emission limit standards of §63.463(b)(1)(ii), (b)(2)(ii), (c)(1)(ii), or (c)(2)(ii) shall maintain records of the initial performance test, including the idling emission rate and values of the monitoring parameters measured during the test.

(5) Records of the halogenated HAP solvent content for each solvent used in a solvent cleaning machine subject to the provisions of this subpart.

(6) If a squeegee system is used to comply with these standards, records of the test required by §63.466(f) to determine the maximum product throughput for the squeegees and records of both the weekly monitoring required by §63.466(a)(3) for visual inspection and the length of continuous web product cleaned during the previous week.

(7) If an air knife system or a combination squeegee and air knife system is used to comply with these standards, records of the determination of the proper operating parameter and parameter value for the air knife system.

(b) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with §63.463 shall maintain records specified in paragraphs (b)(1) through (b)(4) of this section either in electronic or written form for a period of 5 years.

(1) The results of control device monitoring required under §63.466.

(2) Information on the actions taken to comply with §63.463(e) and (f). This information shall include records of written or verbal orders for replacement parts, a description of the repairs made, and additional monitoring conducted to demonstrate that monitored parameters have returned to accepted levels.

(3) Estimates of annual solvent consumption for each solvent cleaning machine.

(4) If a carbon adsorber is used to comply with these standards, records of the date and results of the weekly measurement of the halogenated HAP solvent concentration in the carbon adsorber exhaust required in §63.466(e).

(c) Except as provided in paragraph (e) of this section for continuous web cleaning machines, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of §63.464 shall maintain records specified in paragraphs (c)(1) through (3) of this section either in electronic or written form for a period of 5 years.

(1) The dates and amounts of solvent that are added to the solvent cleaning machine.

(2) The solvent composition of wastes removed from cleaning machines as determined using the procedure described in §63.465(c)(2).

(3) Calculation sheets showing how monthly emissions and the rolling 3-month average emissions from the solvent cleaning machine were determined, and the results of all calculations.

(d) Each owner or operator of a solvent cleaning machine without a solvent/air interface complying with the provisions of §63.464 shall maintain records on the method used to determine the cleaning capacity of the cleaning machine.

(e) Each owner or operator of a continuous web cleaning machine complying with the provisions of §63.464(d) shall maintain the following records in either electronic or written form for a period of 5 years.

- (1) The dates and amounts of solvent that are added to the solvent cleaning machine.
- (2) The dates and amounts of solvent that are recovered from the desorption of the carbon adsorber system.
- (3) The solvent composition of wastes removed from each cleaning machine as determined using the procedures in §63.465(c)(2).
- (4) Calculation sheets showing the calculation and results of determining the overall cleaning system control efficiency, as required by §63.465.

[59 FR 61805, Dec. 2, 1994, as amended at 64 FR 67802, Dec. 3, 1999; 68 FR 37349, June 23, 2003]

§ 63.468 Reporting requirements.

(a) Each owner or operator of an existing solvent cleaning machine subject to the provisions of this subpart shall submit an initial notification report to the Administrator no later than August 29, 1995. This report shall include the information specified in paragraphs (a)(1) through (a)(6) of this section.

- (1) The name and address of the owner or operator.
- (2) The address (i.e., physical location) of the solvent cleaning machine(s).
- (3) A brief description of each solvent cleaning machine including machine type (batch vapor, batch cold, vapor in-line or cold in-line), solvent/air interface area, and existing controls.
- (4) The date of installation for each solvent cleaning machine or a letter certifying that the solvent cleaning machine was installed prior to, or after, November 29, 1993.
- (5) The anticipated compliance approach for each solvent cleaning machine.
- (6) An estimate of annual halogenated HAP solvent consumption for each solvent cleaning machine.

(b) Each owner or operator of a new solvent cleaning machine subject to the provisions of this subpart shall submit an initial notification report to the Administrator. New sources for which construction or reconstruction had commenced and initial startup had not occurred before December 2, 1994, shall submit this report as soon as practicable before startup but no later than January 31, 1995. New sources for which the construction or reconstruction commenced after December 2, 1994, shall submit this report as soon as practicable before the construction or reconstruction is planned to commence. This report shall include all of the information required in §63.5(d)(1) of subpart A (General Provisions), with the revisions and additions in paragraphs (b)(1) through (b)(3) of this section.

- (1) The report shall include a brief description of each solvent cleaning machine including machine type (batch vapor, batch cold, vapor in-line, or cold-line), solvent/air interface area, and existing controls.
- (2) The report shall include the anticipated compliance approach for each solvent cleaning machine.
- (3) In lieu of §63.5(d)(1)(ii)(H) of subpart A of this part, the owner or operator must report an estimate of annual halogenated HAP solvent consumption for each solvent cleaning machine.

(c) Each owner or operator of a batch cold solvent cleaning machine subject to the provisions of this subpart shall submit a compliance report to the Administrator. For existing sources, this report shall be submitted to the Administrator no later than 150 days after the compliance date specified in §63.460(d). For new sources, this report shall be submitted to the Administrator no later than 150 days after startup or May 1, 1995,

whichever is later. This report shall include the requirements specified in paragraphs (c)(1) through (c)(4) of this section.

(1) The name and address of the owner or operator.

(2) The address (i.e., physical location) of the solvent cleaning machine(s).

(3) A statement, signed by the owner or operator of the solvent cleaning machine, stating that the solvent cleaning machine for which the report is being submitted is in compliance with the provisions of this subpart.

(4) The compliance approach for each solvent cleaning machine.

(d) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of §63.463 shall submit to the Administrator an initial statement of compliance for each solvent cleaning machine. For existing sources, this report shall be submitted to the Administrator no later than 150 days after the compliance date specified in §63.460(d). For new sources, this report shall be submitted to the Administrator no later than 150 days after startup or May 1, 1995, whichever is later. This statement shall include the requirements specified in paragraphs (d)(1) through (d)(6) of this section.

(1) The name and address of the owner or operator.

(2) The address (i.e., physical location) of the solvent cleaning machine(s).

(3) A list of the control equipment used to achieve compliance for each solvent cleaning machine.

(4) For each piece of control equipment required to be monitored, a list of the parameters that are monitored and the values of these parameters measured on or during the first month after the compliance date.

(5) Conditions to maintain the wind speed requirements of §63.463(e)(2)(ii), if applicable.

(6) Each owner or operator of a solvent cleaning machine complying with the idling emission limit standards of §63.463(b)(1)(ii), (b)(2)(ii), (c)(1)(ii), and (c)(2)(ii) shall submit a test report for tests of idling emissions meeting the specifications in Method 307 of appendix A to this subpart. This report shall comply with the requirements specified in paragraphs (d)(6)(i) through (d)(6)(iv) of this section.

(i) This test must be on the same specific model cleaner used at the source. The test can be done by the owner or operator of the affected machine or can be supplied by the vendor of that solvent cleaning machine or a third party.

(ii) This report must clearly state the monitoring parameters, monitoring frequency and the delineation of exceedances for each parameter.

(iii) If a solvent cleaning machine vendor or third party test report is used to demonstrate compliance, it shall include the following for the solvent cleaning machine tested: Name of person(s) or company that performed the test, model name, the date the solvent cleaning machine was tested, serial number, and a diagram of the solvent cleaning machine tested.

(iv) If a solvent cleaning machine vendor or third party test report is used, the owner or operator of the solvent cleaning machine shall comply with the requirements specified in either paragraphs (d)(6)(iv)(A) and (d)(6)(iv)(B) of this section.

(A) Submit a statement by the solvent cleaning machine vendor that the unit tested is the same as the unit the report is being submitted for.

(B) Demonstrate to the Administrator's satisfaction that the solvent emissions from the solvent cleaning machine for which the test report is being submitted are equal to or less than the solvent emissions from the solvent cleaning machine in the vendor test report.

(7) If a carbon adsorber is used to comply with these standards, the date and results of the weekly measurement of the halogenated HAP solvent concentration in the carbon adsorber exhaust required in §63.466(e).

(e) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of §63.464 shall submit to the Administrator an initial statement of compliance for each solvent cleaning machine. For existing sources, this report shall be submitted to the Administrator no later than 150 days after the compliance date specified in §63.460(d). For new sources, this report shall be submitted to the Administrator no later than 150 days after startup or May 1, 1995, whichever is later. The statement shall include the information specified in paragraphs (e)(1) through (e)(4) of this section.

(1) The name and address of the solvent cleaning machine owner or operator.

(2) The address of the solvent cleaning machine(s).

(3) The solvent/air interface area for each solvent cleaning machine or, for cleaning machines without a solvent/air interface, a description of the method used to determine the cleaning capacity and the results.

(4) The results of the first 3-month average emissions calculation.

(f) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of §63.463 shall submit an annual report by February 1 of the year following the one for which the reporting is being made. This report shall include the requirements specified in paragraphs (f)(1) through (f)(3) of this section.

(1) A signed statement from the facility owner or his designee stating that, "All operators of solvent cleaning machines have received training on the proper operation of solvent cleaning machines and their control devices sufficient to pass the test required in §63.463(d)(10)."

(2) An estimate of solvent consumption for each solvent cleaning machine during the reporting period.

(3) The reports required under paragraphs (f) and (g) of this section can be combined into a single report for each facility.

(g) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of §63.464 shall submit a solvent emission report every year. This solvent emission report shall contain the requirements specified in paragraphs (g)(1) through (g)(4) of this section.

(1) The size and type of each unit subject to this subpart (solvent/air interface area or cleaning capacity).

(2) The average monthly solvent consumption for the solvent cleaning machine in kilograms per month.

(3) The 3-month monthly rolling average solvent emission estimates calculated each month using the method as described in §63.465(c).

(4) The reports required under paragraphs (f) and (g) of this section can be combined into a single report for each facility.

(h) Each owner or operator of a batch vapor or in-line solvent cleaning machine shall submit an exceedance report to the Administrator semiannually except when, 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, an

exceedance occurs. Once an exceedance has occurred the owner or operator shall follow a quarterly reporting format until a request to reduce reporting frequency under paragraph (i) of this section is approved. Exceedance reports shall be delivered or postmarked by the 30th day following the end of each calendar half or quarter, as appropriate. The exceedance report shall include the applicable information in paragraphs (h) (1) through (3) of this section.

(1) Information on the actions taken to comply with §63.463 (e) and (f). This information shall include records of written or verbal orders for replacement parts, a description of the repairs made, and additional monitoring conducted to demonstrate that monitored parameters have returned to accepted levels.

(2) If an exceedance has occurred, the reason for the exceedance and a description of the actions taken.

(3) If no exceedances of a parameter have occurred, or a piece of equipment has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.

(i) An owner or operator who is required to submit an exceedance report on a quarterly (or more frequent) basis may reduce the frequency of reporting to semiannual if the conditions in paragraphs (i)(1) through (i)(3) of this section are met.

(1) The source has demonstrated a full year of compliance without an exceedance.

(2) The owner or operator continues to comply with all relevant recordkeeping and monitoring requirements specified subpart A (General Provisions) and in this subpart.

(3) The Administrator does not object to a reduced frequency of reporting for the affected source as provided in paragraph (e)(3)(iii) of subpart A (General Provisions).

(j) [Reserved]

(k) Each owner or operator of a solvent cleaning machine requesting an equivalency determination, as described in §63.469 shall submit an equivalency request report to the Administrator. For existing sources, this report must be submitted to the Administrator no later than June 3, 1996. For new sources, this report must be submitted and approved by the Administrator prior to startup.

[59 FR 61805, Dec. 2, 1994; 60 FR 29485, June 5, 1995, as amended at 64 FR 69643, Dec. 14, 1999; 71 FR 75346, Dec. 19, 2005]

§ 63.469 Equivalent methods of control.

Upon written application, the Administrator may approve the use of equipment or procedures after they have been satisfactorily demonstrated to be equivalent, in terms of reducing emissions of methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride or chloroform to the atmosphere, to those prescribed for compliance within a specified paragraph of this subpart. The application must contain a complete description of the equipment or procedure and the proposed equivalency testing procedure and the date, time, and location scheduled for the equivalency demonstration.

§ 63.470 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 implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

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

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

(1) Approval of alternatives to the requirements in §§63.460, 63.462(a) through (d), and 63.463 through 63.464 (except for the authorities in §63.463(d)(9)). Use the procedures in §63.469 to request the use of alternative equipment or procedures.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

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

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

[68 FR 37349, June 23, 2003]

§ 63.471 Facility-wide standards.

(a) Each owner or operator of an affected facility shall comply with the requirements specified in this section. For purposes of this section, affected facility means all solvent cleaning machines, except solvent cleaning machines used in the manufacture and maintenance of aerospace products, solvent cleaning machines used in the manufacture of narrow tubing, and continuous web cleaning machines, located at a major source that are subject to the facility-wide limits in paragraph (b)(2) of this section, and for area sources, affected facility means all solvent cleaning machines, except cold batch cleaning machines, located at an area source that are subject to the facility-wide limits in paragraph (b)(2) of this section.

(b)(1) Each owner or operator of an affected facility must maintain a log of solvent additions and deletions for each solvent cleaning machine.

(2) Each owner or operator of an affected facility must ensure that the total emissions of perchloroethylene (PCE), trichloroethylene (TCE) and methylene chloride (MC) used at the affected facility are equal to or less than the applicable facility-wide 12-month rolling total emission limit presented in Table 1 of this section as determined using the procedures in paragraph (c) of this section.

Table 1—Facility-wide Emission Limits for Facilities With Solvent Cleaning Machines

Solvents emitted	Facility-wide annual emission limits in kg—for general population degreasing machines	Facility-wide annual emission limit in kg for military depot maintenance facilities
PCE only ^a	4,800	8,000
TCE only	14,100	23,500
MC only	60,000	100,000
Multiple solvents—	60,000	100,000

Calculate the MC-weighted emissions using equation 1		
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^aPCE emission limit calculated using CalEPA URE.

Note: In the equation, the facility emissions of PCE and TCE are weighted according to their carcinogenic potency relative to that of MC. The value of A is 12.5. The value for B is 4.25.

$$WE = (PCE \times A) + (TCE \times B) + (MC) \quad (\text{Eq. 9})$$

Where:

WE = Weighted 12-month rolling total emissions in kg (lbs).

PCE = 12-month rolling total PCE emissions from all solvent cleaning machines at the facility in kg (lbs).

TCE = 12-month rolling total TCE emission from all solvent cleaning machines at the facility in kg (lbs).

MC = 12-month rolling total MC emissions from all solvent cleaning machines at the facility in kg (lbs).

(c) Each owner or operator of an affected facility shall on the first operating day of every month, demonstrate compliance with the applicable facility-wide emission limit on a 12-month rolling total basis using the procedures in paragraphs (c)(1) through (5) of this section. For purposes of this paragraph, "each solvent cleaning machine" means each solvent cleaning machine that is part of an affected facility regulated by this section.

(1) Each owner or operator of an affected facility shall, on the first operating day of every month, ensure that each solvent cleaning machine system contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent, and used solvent that has been cleaned of soiled materials. A fill line must be indicated during the first month the measurements are made. The solvent level within the machine must be returned to the same fill-line each month, immediately prior to calculating monthly emissions as specified in paragraphs (c)(2) and (3) of this section. The solvent cleaning machine does not have to be emptied and filled with fresh unused solvent prior to the calculations.

(2) Each owner or operator of an affected facility shall, on the first operating day of the month, using the records of all solvent additions and deletions for the previous month, determine solvent emissions (E_{unit}) from each solvent cleaning machine using equation 10:

$$E_{unit} = SA_i - LSR_i - SSR_i \quad (\text{Eq. 10})$$

Where:

E_{unit} = the total halogenated HAP solvent emissions from the solvent cleaning machine during the most recent month i , (kilograms of solvent per month).

SA_i = the total amount of halogenated HAP liquid solvent added to the solvent cleaning machine during the most recent month i , (kilograms of solvent per month).

LSR_i = the total amount of halogenated HAP liquid solvent removed from the solvent cleaning machine during the most recent month i , (kilograms of solvent per month).

SSR_i = the total amount of halogenated HAP solvent removed from the solvent cleaning machine in solid waste, obtained as described in paragraph (c)(3) of this section, during the most recent month i , (kilograms of solvent per month).

(3) Each owner or operator of an affected facility shall, on the first operating day of the month, determine SSR_i using the method specified in paragraph (c)(3)(i) or (c)(3)(ii) of this section.

(i) From tests conducted using EPA reference method 25d.

(ii) By engineering calculations included in the compliance report.

(4) Each owner or operator of an affected facility shall on the first operating day of the month, after 12 months of emissions data are available, determine the 12-month rolling total emissions, ET_{unit} , for the 12-month period ending with the most recent month using equation 11:

$$ET_{unit} = \left[\sum_{j=1}^{12} E_{unit} \right] \quad (\text{Eq 11})$$

Where:

ET_{unit} = the total halogenated HAP solvent emissions over the preceding 12 months, (kilograms of solvent emissions per 12-month period).

E_{unit} = halogenated HAP solvent emissions for each month (j) for the most recent 12 months (kilograms of solvent per month).

(5) Each owner or operator of an affected facility shall on the first operating day of the month, after 12 months of emissions data are available, determine the 12-month rolling total emissions, $ET_{facility}$, for the 12-month period ending with the most recent month using equation 12:

$$ET_{facility} = \left[\sum_{j=1}^i ET_{unit} \right] \quad (\text{Eq 12})$$

Where:

$ET_{facility}$ = the total halogenated HAP solvent emissions over the preceding 12 months for all cleaning machines at the facility, (kilograms of solvent emissions per 12-month period).

ET_{unit} = the total halogenated HAP solvent emissions over the preceding 12 months for each unit j , where i equals the total number of units at the facility (kilograms of solvent emissions per 12-month period).

(d) If the applicable facility-wide emission limit presented in Table 1 of paragraph (b)(2) is not met, an exceedance has occurred. All exceedances shall be reported as required in §63.468(h).

(e) Each owner or operator of an affected facility shall maintain records specified in paragraphs (e)(1) through (3) of this section either in electronic or written form for a period of 5 years. For purposes of this

paragraph, "each solvent cleaning machine" means each solvent cleaning machine that is part of an affected facility regulated by this section.

- (1) The dates and amounts of solvent that are added to each solvent cleaning machine.
- (2) The solvent composition of wastes removed from each solvent cleaning machines as determined using the procedure described in paragraph (c)(3) of this section.
- (3) Calculation sheets showing how monthly emissions and the 12-month rolling total emissions from each solvent cleaning machine were determined, and the results of all calculations.
- (f) Each owner or operator of an affected facility shall submit an initial notification report to the Administrator no later than May 3, 2010. This report shall include the information specified in paragraphs (f)(1) through (5) of this section.

- (1) The name and address of the owner or operator of the affected facility.
- (2) The address (i.e., physical location) of the solvent cleaning machine(s) that is part of an affected facility regulated by this section.
- (3) A brief description of each solvent cleaning machine at the affected facility including machine type (batch vapor, batch cold, vapor in-line or cold in-line), solvent/air interface area, and existing controls.
- (4) The date of installation for each solvent cleaning machine.
- (5) An estimate of annual halogenated HAP solvent consumption for each solvent cleaning machine.

(g) Each owner or operator of an affected facility shall submit to the Administrator an initial statement of compliance on or before May 3, 2010. The statement shall include the information specified in paragraphs (g)(1) through (g)(3) of this section.

- (1) The name and address of the owner or operator of the affected facility.
- (2) The address (i.e., physical location) of each solvent cleaning machine that is part of an affected facility regulated by this section.
- (3) The results of the first 12-month rolling total emissions calculation.

(h) Each owner or operator of an affected facility shall submit a solvent emission report every year. This solvent emission report shall contain the requirements specified in paragraphs (h)(1) through (h)(3) of this section.

- (1) The average monthly solvent consumption for the affected facility in kilograms per month.
- (2) The 12-month rolling total solvent emission estimates calculated each month using the method as described in paragraph (c) of this section.
- (3) This report can be combined with the annual report required in §63.468(f) and (g) into a single report for each facility.

[72 FR 25158, May 3, 2007]

Appendix A to Subpart T of Part 63—Test of Solvent Cleaning Procedures

General Questions

___ 1. What is the maximum allowable speed for parts entry and removal?

- A. 8.5 meters per minute (28 feet per minute).
- B. 3.4 meters per minute (11 feet per minute).
- C. 11 meters per minute (36 feet per minute).
- D. No limit.

___ 2. How do you ensure that parts enter and exit the solvent cleaning machine at the speed required in the regulation?

- A. Program on computerized hoist monitors speed.
- B. Can judge the speed by looking at it.
- C. Measure the time it takes the parts to travel a measured distance.

___ 3. Identify the sources of air disturbances.

- A. Fans
- B. Open doors
- C. Open windows
- D. Ventilation vents
- E. All of the above

___ 4. What are the three operating modes?

- A. Idling, working and downtime
- B. Precleaning, cleaning, and drying
- C. Startup, shutdown, off
- D. None of the above

___ 5. When can parts or parts baskets be removed from the solvent cleaning machine?

- A. When they are clean
- B. At any time
- C. When dripping stops

D. Either A or C is correct

___ 6. How must parts be oriented during cleaning?

- A. It does not matter as long as they fit in the parts basket.
- B. So that the solvent pools in the cavities where the dirt is concentrated.
- C. So that solvent drains from them freely.

___ 7. During startup, what must be turned on first, the primary condenser or the sump heater?

- A. Primary condenser
- B. Sump heater
- C. Turn both on at same time
- D. Either A or B is correct

___ 8. During shutdown, what must be turned off first, the primary condenser or the sump heater?

- A. Primary condenser
- B. Sump heater
- C. Turn both off at same time
- D. Either A or B is correct

___ 9. In what manner must solvent be added to and removed from the solvent cleaning machine?

- A. With leak proof couplings
- B. With the end of the pipe in the solvent sump below the liquid solvent surface.
- C. So long as the solvent does not spill, the method does not matter.
- D. A and B

___ 10. What must be done with waste solvent and still and sump bottoms?

- A. Pour down the drain
- B. Store in closed container
- C. Store in a bucket
- D. A or B

___ 11. What types of materials are prohibited from being cleaned in solvent cleaning machines using halogenated HAP solvents?

- A. Sponges
- B. Fabrics
- C. Paper
- D. All of the above

Control Device Specific Questions

[] Freeboard Refrigeration Device

___ 1. What temperature must the FRD achieve?

- A. Below room temperature
- B. 50 °F
- C. Below the solvent boiling point
- D. 30 percent below the solvent boiling point

[] Working-Mode Cover

___ 2. When can a cover be open?

- A. While parts are in the cleaning machine
- B. During parts entry and removal
- C. During maintenance
- D. During measurements for compliance purposes
- E. A and C
- F. B, C, and D

___ 3. Covers must be maintained in what condition?

- A. Free of holes
- B. Free of cracks
- C. So that they completely seal cleaner opening
- D. All of the above

[] Dwell

___ 4. Where must the parts be held for the appropriate dwell time?

- A. In the vapor zone
- B. In the freeboard area above the vapor zone
- C. Above the cleaning machine
- D. In the immersion sump

Answers

General Questions

- 1. B
- 2. A or C
- 3. E
- 4. A
- 5. C
- 6. C
- 7. A
- 8. B
- 9. D
- 10. B
- 11. D

Control Device Specific Questions

- 1. D
- 2. F
- 3. D
- 4. B

[59 FR 61818, Dec. 2, 1994; 60 FR 29485, June 5, 1995]

Appendix B to Subpart T of Part 63—General Provisions Applicability to Subpart T

Reference	Applies to subpart T		Comments
	BCC	BVI	
63.1(a) (1)–(3)	Yes	Yes	
63.1(a)(4)	Yes	Yes	Subpart T (this appendix) specifies applicability of each paragraph in subpart A to subpart T.
63.1(a)(5)	No	No	
63.1(a) (6)–(8)	Yes	Yes	
63.1(a)(9)	No	No	
63.1(a)(10)	Yes	Yes	
63.1(a)(11)	No	No	Subpart T allows submittal of notifications and reports through the U.S. mail, fax, and courier. Subpart T requires that the postmark for notifications and reports submitted through the U.S. mail or other non-Governmental mail carriers be on or before deadline specified in an applicable requirement.
63.1(a) (12)–(14)	Yes	Yes	
63.1(b)(1)	No	No	Subpart T specifies applicability.
63.1(b)(2)	No	Yes	
63.1(b)(3)	No	No	Subpart T requires that a record of halogenated cleaning machine applicability determination be kept on site for 5 years, or until the cleaning machine changes its operations. The record shall be sufficiently detailed to allow the Administrator to make a finding about the source's applicability status with regard to subpart T.
63.1(c)(1)	Yes	Yes	
63.1(c)(2)	Yes	Yes	Subpart T, §63.460(h) exempts area sources subject to this subpart from the obligation to obtain Title V operating permits.
63.1(c)(3)	No	No	
63.1(c)(4)	Yes	Yes	
63.1(c)(5)	Yes	Yes	Subpart T does not require continuous monitoring systems

			(CMS) or continuous opacity monitoring systems. Therefore, notifications and requirements for CMS and COMS specified in subpart A do not apply to subpart T.
63.1(d)	No	No	
63.1(e)	No	Yes	
63.2	Yes	Yes	Subpart T definitions (§63.461) for existing and new overlap with the definitions for existing source and new source in subpart A (§63.2). Both subpart A and T also define Administrator.
63.3(a)–(c)	Yes	Yes	
63.4(a) (1)–(3)	Yes	Yes	
63.4(a)(4)	No	No	
63.4(a)(5)	Yes	Yes	
63.4(b)–(c)	Yes	Yes	
63.5(a)(1)	Yes	Yes	
63.5(a)(2)	Yes	Yes	
63.5(b)(1)	Yes	Yes	
63.5(b)(2)	No	No	
63.5(b)(3)	No	No	Subpart T overrides the requirement for approval prior to constructing a new or reconstructing an existing major source.
63.5(b)(4)–(6)	Yes	Yes	
63.5(c)	No	No	
63.5 (d)–(f)	No	No	Subpart T overrides the requirement to submit an application for approval of construction or reconstruction of a halogenated solvent cleaning machine.
63.6(a)	Yes	Yes	
63.6(b) (1)–(5)	Yes	Yes	Subpart T, §63.460, specifies compliance dates.
63.6(b)(6)	No	No	

63.6(b)(7)	No	No	Subpart T has the same requirements for affected halogenated HAP solvent cleaning machine subcategories that are located at area sources as it does for those located at major sources.
63.6(c)(1)–(2)	Yes	Yes	Subpart T allows 3 years from the date of promulgation for both area and major existing sources to comply.
63.6(c)(3)–(4)	No	No	
63.6(c)(5)	Yes	Yes	Subpart T has the same requirements for affected halogenated HAP solvent cleaning machine subcategories that are located at area sources as it does for those located at major sources.
			Subpart T allows 3 years from the date of promulgation for both area and major existing sources to comply.
63.6(d)	No	No	
63.6(e)(1)–(2)	Yes	Yes	
63.6(e)(3)	No	No	Subpart T overrides the requirement of a startup, shutdown, and malfunction plan. Subpart T specifies startup and shutdown procedures to be followed by an owner or operator for batch vapor and in-line cleaning machines.
63.6(f)–(g)	Yes	Yes	
63.6(h)	No	No	Subpart T does not require compliance with an opacity or visible emission standard.
63.6(i)(1)–(14)	Yes	Yes	
63.6(i)(15)	No	No	
63.6(i)(16)	Yes	Yes	
63.6(j)	Yes	Yes	
63.7(a)	No	Yes	Subpart T gives owners or operators the option to perform an idling emission performance test as a way of demonstrating compliance. Other options are also available that do not require a performance test.
63.7(b)	No	Yes	This is only required for those owners or operators that choose the idling emission standard as their compliance option.
63.7(c)(1)	No	Yes	This is only required for those owners or operators that choose

			the idling emission standard as their compliance option.
63.7(c) (2)–(3)	No	No	Subpart T does not require a site-specific test plan for the idling emission performance test.
63.7(c)(4)	No	No	Subpart T does not require a performance test that involves the retrieval of gas samples, and therefore this does not apply.
63.7(d)	No	No	Requirements do not apply to the idling emission performance test option.
63.7(e)	No	Yes	
63.7(f)	No	Yes	
63.7(g)	No	Yes	Subpart T specifies what is required to demonstrate idling emission standard compliance through the use of the Environmental Protection Agency test method 307 and control device monitoring. Reports and records of testing and monitoring are required for compliance verification. Three runs of the test are required for compliance, as specified in §63.7(e) of subpart A.
63.7(h)	No	No	Subpart T does not require the use of a performance test to comply with the standard. The idling emission standard option (which requires an idling emission performance test) is an alternative option offered to owners or operators of batch vapor and in-line cleaning machines for compliance flexibility.
63.8 (a)–(b)	Yes	Yes	
63.8 (c)–(e)	No	No	Subpart T does not require the use of continuous monitoring systems to demonstrate compliance.
63.8(f)	Yes	Yes	
63.8(g)	No	No	Subpart T does not require continuous opacity monitoring systems and continuous monitoring systems data.
63.9(a) (1)–(4)	Yes	Yes	
63.9(b)(1)	Yes	Yes	
63.9(b)(2)	Yes	Yes	Subpart T includes all of those requirements stated in subpart A, except that subpart A also requires a statement as to whether the affected source is a major or an area source, and an identification of the relevant standard (including the source's compliance date). Subpart T also has some more specific

			information requirements specific to the affected source (see subpart T, §§63.468(a)–(b)).
63.9(b)(3)	Yes	Yes	The subpart A and subpart T initial notification reports differ (see above).
63.9(b)(4)	No	No	Subpart T does not require an application for approval of construction or reconstruction.
63.9(b)(5)	Yes	Yes	
63.9(c)	Yes	Yes	
63.9(d)	Yes	Yes	
63.9(e)	Yes	Yes	Under subpart T, this requirement only applies to owners or operators choosing to comply with the idling emissions standard.
63.9(f)	No	No	Subpart T does not require opacity or visible emission observations.
63.9(g)(1)	No	No	Subpart T does not require the use of continuous monitoring systems or continuous opacity monitoring systems.
63.9(h)	No	No	Section 63.468 of subpart T requires an initial statement of compliance for existing sources to be submitted to the Administrator no later than 150 days after the compliance date specified in §63.460(d) of subpart T. For new sources, this report is to be submitted to the Administrator no later than 150 days from the date specified in §63.460(c).
63.9(i)	Yes	Yes	
63.9(j)	Yes	Yes	
63.10(a)	Yes	Yes	
63.10(b)	No	No	Recordkeeping requirements are specified in subpart T.
63.10(c)(1)–(15)	No	No	Subpart T does not require continuous monitoring systems.
63.10(d)(1)	Yes	Yes	
63.10(d)(2)	No	No	Reporting requirements are specified in subpart T.
63.10(e)(1)–(2)	No	No	Subpart T does not require continuous emissions monitoring systems.
63.10(e)(3)	No	No	Subpart T does not require continuous monitoring systems.

63.10(e)(4)	No	No	Subpart T does not require continuous opacity monitoring systems.
63.10(f)	Yes	Yes	
63.11(a)	Yes	Yes	
63.11(b)	No	No	Flares are not a control option under subpart T.
63.12 (a)–(c)	Yes	Yes	
63.13 (a)–(c)	Yes	Yes	
63.14	No	No	Subpart T requirements do not require the use of the test methods incorporated by reference in subpart A.
63.15(a)–(b)	Yes	Yes	

BCC=Batch Cold Cleaning Machines.

BVI=Batch Vapor and In-line Cleaning Machines.

[59 FR 61818, Dec. 2, 1994; 60 FR 29485, June 5, 1995, as amended at 70 FR 75346, Dec. 19, 2005]

**Indiana Department of Environmental Management
Office of Air Quality**

**Attachment D
for a
Part 70 Operating Permit**

Source Background and Description

Source Name:	Rolls Royce Corporation
Source Location:	Plant 8 - 2001 South Tibbs Ave., Indianapolis, IN 46241 Plant 5 - 2355 South Tibbs Ave., Indianapolis, IN 46241
County:	Marion
SIC Code:	3724
Permit Renewal No.:	T097-25529-00311
Permit Reviewer:	Roger Osburn

Subpart GG—National Emission Standards for Aerospace Manufacturing and Rework Facilities

Source: 60 FR 45956, Sept. 1, 1996, unless otherwise noted.

§ 63.741 Applicability and designation of affected sources.

(a) This subpart applies to facilities that are engaged, either in part or in whole, in the manufacture or rework of commercial, civil, or military aerospace vehicles or components and that are major sources as defined in §63.2.

(b) The owner or operator of an affected source shall comply with the requirements of this subpart and of subpart A of this part, except as specified in §63.743(a) and Table 1 of this subpart.

(c) *Affected sources.* The affected sources to which the provisions of this subpart apply are specified in paragraphs (c)(1) through (7) of this section. The activities subject to this subpart are limited to the manufacture or rework of aerospace vehicles or components as defined in this subpart. Where a dispute arises relating to the applicability of this subpart to a specific activity, the owner or operator shall demonstrate whether or not the activity is regulated under this subpart.

(1) Each cleaning operation as follows:

(i) All hand-wipe cleaning operations constitute an affected source.

(ii) Each spray gun cleaning operation constitutes an affected source.

(iii) All flush cleaning operations constitute an affected source.

(2) For organic HAP or VOC emissions, each primer application operation, which is the total of all primer applications at the facility.

(3) For organic HAP or VOC emissions, each topcoat application operation, which is the total of all topcoat applications at the facility.

(4) For organic HAP or VOC emissions, each depainting operation, which is the total of all depainting at the facility.

(5) Each chemical milling maskant application operation, which is the total of all chemical milling maskant applications at the facility.

(6) Each waste storage and handling operation, which is the total of all waste handling and storage at the facility.

(7) For inorganic HAP emissions, each spray booth or hangar that contains a primer or topcoat application operation subject to §63.745(g) or a depainting operation subject to §63.746(b)(4).

(d) An owner or operator of an affected source subject to this subpart shall obtain an operating permit from the permitting authority in the State in which the source is located. The owner or operator shall apply for and obtain such permit in accordance with the regulations contained in part 70 of this chapter and in applicable State regulations.

(e) All wastes that are determined to be hazardous wastes under the Resource Conservation and Recovery Act of 1976 (PL 94-580) (RCRA) as implemented by 40 CFR parts 260 and 261, and that are subject to RCRA requirements as implemented in 40 CFR parts 262 through 268, are exempt from the requirements of this subpart.

(f) This subpart does not contain control requirements for use of specialty coatings, adhesives, adhesive bonding primers, or sealants at aerospace facilities. It also does not regulate research and development, quality control, and laboratory testing activities, chemical milling, metal finishing, electrodeposition (except for electrodeposition of paints), composites processing (except for cleaning and coating of composite parts or components that become part of an aerospace vehicle or component as well as composite tooling that comes in contact with such composite parts or components prior to cure), electronic parts and assemblies (except for cleaning and topcoating of completed assemblies), manufacture of aircraft transparencies, and wastewater operations at aerospace facilities. These requirements do not apply to the rework of aircraft or aircraft components if the holder of the Federal Aviation Administration (FAA) design approval, or the holder's licensee, is not actively manufacturing the aircraft or aircraft components. These requirements also do not apply to parts and assemblies not critical to the vehicle's structural integrity or flight performance. The requirements of this subpart also do not apply to primers, topcoats, chemical milling maskants, strippers, and cleaning solvents containing HAP and VOC at concentrations less than 0.1 percent for carcinogens or 1.0 percent for noncarcinogens, as determined from manufacturer's representations. Additional specific exemptions from regulatory coverage are set forth in paragraphs (e), (g), (h), (i) and (j) of this section and §§63.742, 63.744(a)(1), (b), (e), 63.745(a), (f)(3), (g)(4), 63.746(a), (b)(5), 63.747(c)(3), and 63.749(d).

(g) The requirements for primers, topcoats, and chemical milling maskants in §63.745 and §63.747 do not apply to the use of low-volume coatings in these categories for which the annual total of each separate formulation used at a facility does not exceed 189 l (50 gal), and the combined annual total of all such primers, topcoats, and chemical milling maskants used at a facility does not exceed 757 l (200 gal). Primers and topcoats exempted under paragraph (f) of this section and under §63.745(f)(3) and (g)(4) are not included in the 50 and 200 gal limits. Chemical milling maskants exempted under §63.747(c)(3) are also not included in these limits.

(h) Regulated activities associated with space vehicles designed to travel beyond the limit of the earth's atmosphere, including but not limited to satellites, space stations, and the Space Shuttle System (including orbiter, external tanks, and solid rocket boosters), are exempt from the requirements of this subpart, except for depainting operations found in §63.746.

(i) Any waterborne coating for which the manufacturer's supplied data demonstrate that organic HAP and VOC contents are less than or equal to the organic HAP and VOC content limits for its coating type, as specified in §§63.745(c) and 63.747(c), is exempt from the following requirements of this subpart: §§63.745 (d) and (e), 63.747(d) and (e), 63.749 (d) and (h), 63.750 (c) through (h) and (k) through (n), 63.752 (c) and (f), and 63.753 (c) and (e). A facility shall maintain the manufacturer's supplied data and annual purchase

records for each exempt waterborne coating readily available for inspection and review and shall retain these data for 5 years.

(j) Regulated activities associated with the rework of antique aerospace vehicles or components are exempt from the requirements of this subpart.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15016, Mar. 27, 1998; 63 FR 46532, Sept. 1, 1998]

§ 63.742 Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this section as follows:

Aerospace facility means any facility that produces, reworks, or repairs in any amount any commercial, civil, or military aerospace vehicle or component.

Aerospace vehicle or component means any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles.

Aircraft fluid systems means those systems that handle hydraulic fluids, fuel, cooling fluids, or oils.

Aircraft transparency means the aircraft windshield, canopy, passenger windows, lenses, and other components which are constructed of transparent materials.

Antique aerospace vehicle or component means an aircraft or component thereof that was built at least 30 years ago. An antique aerospace vehicle would not routinely be in commercial or military service in the capacity for which it was designed.

Carbon adsorber means one vessel in a series of vessels in a carbon adsorption system that contains carbon and is used to remove gaseous pollutants from a gaseous emission source.

Carbon Adsorber control efficiency means the total efficiency of the control system, determined by the product of the capture efficiency and the control device efficiency.

Chemical milling maskant means a coating that is applied directly to aluminum components to protect surface areas when chemical milling the component with a Type I or Type II etchant. Type I chemical milling maskants are used with a Type I etchant and Type II chemical milling maskants are used with a Type II etchant. This definition does not include bonding maskants, critical use and line sealer maskants, and seal coat maskants. Additionally, maskants that must be used with a combination of Type I or II etchants and any of the above types of maskants (i.e., bonding, critical use and line sealer, and seal coat) are also exempt from this subpart. (See also Type I and Type II etchant definitions.)

Chemical milling maskant application operation means application of chemical milling maskant for use with Type I or Type II chemical milling etchants.

Cleaning operation means collectively spray gun, hand-wipe, and flush cleaning operations.

Cleaning solvent means a liquid material used for hand-wipe, spray gun, or flush cleaning. This definition does not include solutions that contain HAP and VOC below the de minimis levels specified in §63.741(f).

Closed-cycle depainting system means a dust-free, automated process that removes permanent coating in small sections at a time and maintains a continuous vacuum around the area(s) being depainted to capture emissions.

Coating means a material that is applied to the surface of an aerospace vehicle or component to form a decorative, protective, or functional solid film, or the solid film itself.

Coating operation means the use of a spray booth, tank, or other enclosure or any area, such as a hangar, for the application of a single type of coating (e.g., primer); the use of the same spray booth for the application of another type of coating (e.g., topcoat) constitutes a separate coating operation for which compliance determinations are performed separately.

Coating unit means a series of one or more coating applicators and any associated drying area and/or oven wherein a coating is applied, dried, and/or cured. A coating unit ends at the point where the coating is dried or cured, or prior to any subsequent application of a different coating. It is not necessary to have an oven or flashoff area in order to be included in this definition.

Confined space means a space that: (1) is large enough and so configured that an employee can bodily enter and perform assigned work; (2) has limited or restricted means for entry or exit (for example, fuel tanks, fuel vessels, and other spaces that have limited means of entry); and (3) is not suitable for continuous employee occupancy.

Control device means destruction and/or recovery equipment used to destroy or recover HAP or VOC emissions generated by a regulated operation.

Control system means a combination of pollutant capture system(s) and control device(s) used to reduce discharge to the atmosphere of HAP or VOC emissions generated by a regulated operation.

Depainting means the removal of a permanent coating from the outer surface of an aerospace vehicle or component, whether by chemical or non-chemical means. For non-chemical means, this definition excludes hand and mechanical sanding, and any other non-chemical removal processes that do not involve blast media or other mechanisms that would result in airborne particle movement at high velocity.

Depainting operation means the use of a chemical agent, media blasting, or any other technique to remove permanent coatings from the outer surface of an aerospace vehicle or components. The depainting operation includes washing of the aerospace vehicle or component to remove residual stripper, media, or coating residue.

Electrodeposition of paint means the application of a coating using a water-based electrochemical bath process. The component being coated is immersed in a bath of the coating. An electric potential is applied between the component and an oppositely charged electrode hanging in the bath. The electric potential causes the ionized coating to be electrically attracted, migrated, and deposited on the component being coated.

Electrostatic spray means a method of applying a spray coating in which an electrical charge is applied to the coating and the substrate is grounded. The coating is attracted to the substrate by the electrostatic potential between them.

Exempt solvent means specified organic compounds that have been determined by the EPA to have negligible photochemical reactivity and are listed in 40 CFR 51.100.

Exterior primer means the first layer and any subsequent layers of identically formulated coating applied to the exterior surface of an aerospace vehicle or component where the component is used on the exterior of the aerospace vehicle. Exterior primers are typically used for corrosion prevention, protection from the environment, functional fluid resistance, and adhesion of subsequent exterior topcoats. Coatings that are defined as specialty coatings are not included under this definition.

Flush cleaning means the removal of contaminants such as dirt, grease, oil, and coatings from an aerospace vehicle or component or coating equipment by passing solvent over, into, or through the item being cleaned. The solvent may simply be poured into the item being cleaned and then drained, or be assisted by air or

hydraulic pressure, or by pumping. Hand-wipe cleaning operations where wiping, scrubbing, mopping, or other hand action are used are not included.

General aviation (GA) means that segment of civil aviation that encompasses all facets of aviation except air carriers, commuters, and military. General aviation includes charter and corporate-executive transportation, instruction, rental, aerial application, aerial observation, business, pleasure, and other special uses.

General aviation rework facility means any aerospace facility with the majority of its revenues resulting from the reconstruction, repair, maintenance, repainting, conversion, or alteration of general aviation aerospace vehicles or components.

Hand-wipe cleaning operation means the removal of contaminants such as dirt, grease, oil, and coatings from an aerospace vehicle or component by physically rubbing it with a material such as a rag, paper, or cotton swab that has been moistened with a cleaning solvent.

Hazardous air pollutant (HAP) means any air pollutant listed in or pursuant to section 112(b) of the Act.

High efficiency particulate air (HEPA) filter means a filter that has a 99.97 percent reduction efficiency for 0.3 micron aerosol.

High volume low pressure (HVLP) spray equipment means spray equipment that is used to apply coating by means of a spray gun that operates at 10.0 psig of atomizing air pressure or less at the air cap.

Inorganic hazardous air pollutant (HAP) means any HAP that is not organic.

Large commercial aircraft means an aircraft of more than 110,000 pounds, maximum certified take-off weight manufactured for non-military use.

Leak means any visible leakage, including misting and clouding.

Limited access space means internal surfaces or passages of an aerospace vehicle or component that cannot be reached without the aid of an airbrush or a spray gun extension for the application of coatings.

Mechanical sanding means aerospace vehicle or component surface conditioning which uses directional and random orbital abrasive tools and aluminum oxide or nylon abrasive pads for the purpose of corrosion rework, substrate repair, prepaint surface preparation, and other maintenance activities.

Natural draft opening means any opening in a room, building, or total enclosure that remains open during operation of the facility and that is not connected to a duct in which a fan is installed. The rate and direction of the natural draft through such an opening is a consequence of the difference in pressures on either side of the wall containing the opening.

Non-chemical based depainting equipment means any depainting equipment or technique, including, but not limited to, media blasting equipment, that can depaint an aerospace vehicle or component in the absence of a chemical stripper. This definition does not include mechanical sanding or hand sanding.

Nonregenerative carbon adsorber means a carbon adsorber vessel in which the spent carbon bed does not undergo carbon regeneration in the adsorption vessel.

Operating parameter value means a minimum or maximum value established for a control device or process parameter which, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emission limitation.

Organic hazardous air pollutant (HAP) means any HAP that is organic.

Primer means the first layer and any subsequent layers of identically formulated coating applied to the surface of an aerospace vehicle or component. Primers are typically used for corrosion prevention, protection from the environment, functional fluid resistance, and adhesion of subsequent coatings. Coatings that are defined as specialty coatings are not included under this definition.

Radome means the non-metallic protective housing for electromagnetic transmitters and receivers (e.g., radar, electronic countermeasures, etc.).

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value, use, or reuse. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators, or organic-water separators or organic removal devices such as decanters, strippers, or thin-film evaporation units.

Research and Development means an operation whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and is not involved in the manufacture of final or intermediate products for commercial purposes, except in a de minimis manner.

Self-priming topcoat means a topcoat that is applied directly to an uncoated aerospace vehicle or component for purposes of corrosion prevention, environmental protection, and functional fluid resistance. More than one layer of identical coating formulation may be applied to the vehicle or component.

Semi-aqueous cleaning solvent means a solution in which water is a primary ingredient (" 60 percent of the solvent solution as applied must be water.)

Softener means a liquid that is applied to an aerospace vehicle or component to degrade coatings such as primers and topcoats specifically as a preparatory step to subsequent depainting by non-chemical based depainting equipment. Softeners may contain VOC but shall not contain any HAP as determined from MSDS's or manufacturer supplied information.

Solids means the non-volatile portion of the coating which after drying makes up the dry film.

Space vehicle means a man-made device, either manned or unmanned, designed for operation beyond earth's atmosphere. This definition includes integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets, and test coupons. Also included is auxiliary equipment associated with test, transport, and storage, which through contamination can compromise the space vehicle performance.

Specialty coating means a coating that, even though it meets the definition of a primer, topcoat, or self-priming topcoat, has additional performance criteria beyond those of primers, topcoats, and self-priming topcoats for specific applications. These performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesively joining substrates, or enhanced corrosion protection. Individual specialty coatings are defined in appendix A to this subpart and in the CTG for Aerospace Manufacturing and Rework Operations (EPA 453/R-97-004).

Spot stripping means the depainting of an area where it is not technically feasible to use a non-chemical depainting technique.

Spray gun means a device that atomizes a coating or other material and projects the particulates or other material onto a substrate.

Stripper means a liquid that is applied to an aerospace vehicle or component to remove permanent coatings such as primers and topcoats.

Surface preparation means the removal of contaminants from the surface of an aerospace vehicle or component, or the activation or reactivation of the surface in preparation for the application of a coating.

Temporary total enclosure means a total enclosure that is constructed for the sole purpose of measuring the emissions from an affected source that are not delivered to an emission control device. A temporary total enclosure must be constructed and ventilated (through stacks suitable for testing) so that it has minimal impact on the performance of the permanent emission capture system. A temporary total enclosure will be assumed to achieve total capture of fugitive emissions if it conforms to the requirements found in §63.750(g)(4) and if all natural draft openings are at least four duct or hood equivalent diameters away from each exhaust duct or hood. Alternatively, the owner or operator may apply to the Administrator for approval of a temporary enclosure on a case-by-case basis.

Topcoat means a coating that is applied over a primer on an aerospace vehicle or component for appearance, identification, camouflage, or protection. Coatings that are defined as specialty coatings are not included under this definition.

Total enclosure means a permanent structure that is constructed around a gaseous emission source so that all gaseous pollutants emitted from the source are collected and ducted through a control device, such that 100% capture efficiency is achieved. There are no fugitive emissions from a total enclosure. The only openings in a total enclosure are forced makeup air and exhaust ducts and any natural draft openings such as those that allow raw materials to enter and exit the enclosure for processing. All access doors or windows are closed during routine operation of the enclosed source. Brief, occasional openings of such doors or windows to accommodate process equipment adjustments are acceptable, but if such openings are routine or if an access door remains open during the entire operation, the access door must be considered a natural draft opening. The average inward face velocity across the natural draft openings of the enclosure must be calculated including the area of such access doors. The drying oven itself may be part of the total enclosure. An enclosure that meets the requirements found in §63.750(g)(4) is a permanent total enclosure.

Touch-up and repair operation means that portion of the coating operation that is the incidental application of coating used to cover minor imperfections in the coating finish or to achieve complete coverage. This definition includes out-of-sequence or out-of-cycle coating.

Two-stage filter system means a dry particulate filter system using two layers of filter media to remove particulate. The first stage is designed to remove the bulk of the particulate and a higher efficiency second stage is designed to remove smaller particulate.

Type I etchant means a chemical milling etchant that contains varying amounts of dissolved sulfur and does not contain amines.

Type II etchant means a chemical milling etchant that is a strong sodium hydroxide solution containing amines.

Volatile organic compound (VOC) means any compound defined as VOC in 40 CFR 51.100. This includes any organic compound other than those determined by the EPA to be an exempt solvent. For purposes of determining compliance with emission limits, VOC will be measured by the approved test methods. Where such a method also inadvertently measures compounds that are exempt solvent, an owner or operator may exclude these exempt solvents when determining compliance with an emission standard.

Waterborne (water-reducible) coating means any coating that contains more than 5 percent water by weight as applied in its volatile fraction.

Waterwash system means a control system that utilizes flowing water (i.e., a conventional waterwash system) or a pumpless system to remove particulate emissions from the exhaust air stream in spray coating application or dry media blast depainting operations.

Nomenclature for determining carbon adsorber efficiency—The nomenclature defined below is used in §63.750(g):

- (1) A_k = the area of each natural draft opening (k) in a total enclosure, in square meters.
- (2) C_{aj} = the concentration of HAP or VOC in each gas stream (j) exiting the emission control device, in parts per million by volume.
- (3) C_{bi} = the concentration of HAP or VOC in each gas stream (i) entering the emission control device, in parts per million by volume.
- (4) C_{di} = the concentration of HAP or VOC in each gas stream (i) entering the emission control device from the affected source, in parts per million by volume.
- (5) C_{fk} = the concentration of HAP or VOC in each uncontrolled gas stream (k) emitted directly to the atmosphere from the affected source, in parts per million by volume.
- (6) C_{gv} = the concentration of HAP or VOC in each uncontrolled gas stream entering each individual carbon adsorber vessel (v), in parts per million by volume. For the purposes of calculating the efficiency of the individual carbon adsorber vessel, C_{gv} may be measured in the carbon adsorption system's common inlet duct prior to the branching of individual inlet ducts to the individual carbon adsorber vessels.
- (7) C_{hv} = the concentration of HAP or VOC in the gas stream exiting each individual carbon adsorber vessel (v), in parts per million by volume.
- (8) E = the control device efficiency achieved for the duration of the emission test (expressed as a fraction).
- (9) F = the HAP or VOC emission capture efficiency of the HAP or VOC capture system achieved for the duration of the emission test (expressed as a fraction).
- (10) FV = the average inward face velocity across all natural draft openings in a total enclosure, in meters per hour.
- (11) H_v = the individual carbon adsorber vessel (v) efficiency achieved for the duration of the emission test (expressed as a fraction).
- (12) H_{sys} = the efficiency of the carbon adsorption system calculated when each carbon adsorber vessel has an individual exhaust stack (expressed as a fraction).
- (13) M_{ci} = the total mass in kilograms of each batch of coating (i) applied, or of each coating applied at an affected coating operation during a 7 to 30-day period, as appropriate, as determined from records at the affected source. This quantity shall be determined at a time and location in the process after all ingredients (including any dilution solvent) have been added to the coating, or if ingredients are added after the mass of the coating has been determined, appropriate adjustments shall be made to account for them.
- (14) M_r = the total mass in kilograms of HAP or VOC recovered for a 7 to 30-day period.
- (15) Q_{aj} = the volumetric flow rate of each gas stream (j) exiting the emission control device in either dry standard cubic meters per hour when EPA Method 18 in appendix A of part 60 is used to measure HAP or VOC concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration.
- (16) Q_{bi} = the volumetric flow rate of each gas stream (i) entering the emission control device, in dry standard cubic meters per hour when EPA Method 18 is used to measure HAP or VOC concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration.

(17) Q_{di} = the volumetric flow rate of each gas stream (i) entering the emission control device from the affected source in either dry standard cubic meters per hour when EPA Method 18 is used to measure HAP or VOC concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration.

(18) Q_{fk} = the volumetric flow rate of each uncontrolled gas stream (k) emitted directly to the atmosphere from the affected source in either dry standard cubic meters per hour when EPA Method 18 is used to measure HAP or VOC concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration.

(19) Q_{gv} = the volumetric flow rate of each gas stream entering each individual carbon adsorber vessel (v) in either dry standard cubic meters per hour when EPA Method 18 is used to measure HAP or VOC concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration. For purposes of calculating the efficiency of the individual carbon adsorber vessel, the value of Q_{gv} can be assumed to equal the value of Q_{hv} measured for that carbon adsorber vessel.

(20) Q_{hv} = the volumetric flow rate of each gas stream exiting each individual carbon adsorber vessel (v) in either dry standard cubic meters per hour when EPA Method 18 is used to measure HAP or VOC concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration.

(21) Q_{ini} = the volumetric flow rate of each gas stream (i) entering the total enclosure through a forced makeup air duct in standard cubic meters per hour (wet basis).

(22) Q_{outj} = the volumetric flow rate of each gas stream (j) exiting the total enclosure through an exhaust duct or hood in standard cubic meters per hour (wet basis).

(23) R = the overall HAP or VOC emission reduction achieved for the duration of the emission test (expressed as a percentage).

(24) RS_i = the total mass in kilograms of HAP or VOC retained in the coating after drying.

(25) W_{oi} = the weight fraction of VOC in each batch of coating (i) applied, or of each coating applied at an affected coating operation during a 7- to 30-day period, as appropriate, as determined by EPA Method 24 or formulation data. This value shall be determined at a time and location in the process after all ingredients (including any dilution solvent) have been added to the coating, or if ingredients are added after the weight fraction of HAP or VOC in the coating has been determined, appropriate adjustments shall be made to account for them.

[60 FR 45956, Sept. 1, 1995, as amended at 63 FR 15017, Mar. 27, 1998; 63 FR 46533, Sept. 1, 1998; 65 FR 76945, Dec. 8, 2000]

§ 63.743 Standards: General.

(a) Except as provided in paragraphs (a)(4) through (a)(10) of this section and in Table 1 of this subpart, each owner or operator of an affected source subject to this subpart is also subject to the following sections of subpart A of this part:

(1) §63.4, Prohibited activities and circumvention;

(2) §63.5, Construction and reconstruction; and

(3) §63.6, Compliance with standards and maintenance requirements.

(4) For the purposes of this subpart, all affected sources shall submit any request for an extension of compliance not later than 120 days before the affected source's compliance date. The extension request should be requested for the shortest time necessary to attain compliance, but in no case shall exceed 1 year.

(5)(i) For the purposes of this subpart, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of his/her intention to deny approval of a request for an extension of compliance submitted under either §63.6(i)(4) or §63.6(i)(5) within 60 calendar days after receipt of sufficient information to evaluate the request.

(ii) In addition, for purposes of this subpart, if the Administrator does not notify the owner or operator in writing of his/her intention to deny approval within 60 calendar days after receipt of sufficient information to evaluate a request for an extension of compliance, then the request shall be considered approved.

(6)(i) For the purposes of this subpart, the Administrator (or the State) will notify the owner or operator in writing of the status of his/her application submitted under §63.6(i)(4)(ii) (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, rather than 15 calendar days as provided for in §63.6(i)(13)(i).

(ii) In addition, for the purposes of this subpart, if the Administrator does not notify the owner or operator in writing of the status of his/her application within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted, then the information in the application or the supplementary information is to be considered sufficient upon which to make a determination.

(7) For the purposes of this subpart, each owner or operator who has submitted an extension request application under §63.6(i)(5) is to be provided 30 calendar days to present additional information or arguments to the Administrator after he/she is notified that the application is not complete, rather than 15 calendar days as provided for in §63.6(i)(13)(ii).

(8) For the purposes of this subpart, each owner or operator is to be provided 30 calendar days to present additional information to the Administrator after he/she is notified of the intended denial of a compliance extension request submitted under either §63.6(i)(4) or §63.6(i)(5), rather than 15 calendar days as provided for in §63.6(1)(12)(iii)(B) and §63.6(i)(13)(iii)(B).

(9) For the purposes of this subpart, a final determination to deny any request for an extension submitted under either §63.6(i)(4) or §63.6(i)(5) will be made within 60 calendar days after presentation of additional information or argument (if the application is complete), or within 60 calendar days after the final date specified for the presentation if no presentation is made, rather than 30 calendar days as provided for in §63.6(i)(12)(iv) and §63.6(i)(13)(iv).

(10) For the purposes of compliance with the requirements of §63.5(b)(4) of the General Provisions and this subpart, owners or operators of existing primer or topcoat application operations and depainting operations who construct or reconstruct a spray booth or hangar that does not have the potential to emit 10 tons/yr or more of an individual inorganic HAP or 25 tons/yr or more of all inorganic HAP combined shall only be required to notify the Administrator of such construction or reconstruction on an annual basis. Notification shall be submitted on or before March 1 of each year and shall include the information required in §63.5(b)(4) for each such spray booth or hangar constructed or reconstructed during the prior calendar year, except that such information shall be limited to inorganic HAP's. No advance notification or written approval from the Administrator pursuant to §63.5(b)(3) shall be required for the construction or reconstruction of such a spray booth or hangar unless the booth or hangar has the potential to emit 10 tons/yr or more of an individual inorganic HAP or 25 tons/yr or more of all inorganic HAP combined.

(b) *Startup, shutdown, and malfunction plan.* Each owner or operator that uses an air pollution control device or equipment to control HAP emissions shall prepare a startup, shutdown, and malfunction plan in accordance with §63.6. Dry particulate filter systems operated per the manufacturer's instructions are

exempt from a startup, shutdown, and malfunction plan. A startup, shutdown, and malfunction plan shall be prepared for facilities using locally prepared operating procedures. In addition to the information required in §63.6, this plan shall also include the following provisions:

(1) The plan shall specify the operation and maintenance criteria for each air pollution control device or equipment and shall include a standardized checklist to document the operation and maintenance of the equipment;

(2) The plan shall include a systematic procedure for identifying malfunctions and for reporting them immediately to supervisory personnel; and

(3) The plan shall specify procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur.

(c) An owner or operator who uses an air pollution control device or equipment not listed in this subpart shall submit a description of the device or equipment, test data verifying the performance of the device or equipment in controlling organic HAP and/or VOC emissions, as appropriate, and specific operating parameters that will be monitored to establish compliance with the standards to the Administrator for approval not later than 120 days prior to the compliance date.

(d) Instead of complying with the individual coating limits in §§63.745 and 63.747, a facility may choose to comply with the averaging provisions specified in paragraphs (d)(1) through (d)(6) of this section.

(1) Each owner or operator of a new or existing source shall use any combination of primers, topcoats (including self-priming topcoats), Type I chemical milling maskants, or Type II chemical milling maskants such that the monthly volume-weighted average organic HAP and VOC contents of the combination of primers, topcoats, Type I chemical milling maskants, or Type II chemical milling maskants, as determined in accordance with the applicable procedures set forth in §63.750, complies with the specified content limits in §§63.745(c) and 63.747(c), unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(2) Averaging is allowed only for uncontrolled primers, topcoats (including self-priming topcoats), Type I chemical milling maskants, or Type II chemical milling maskants.

(3) Averaging is not allowed between primers and topcoats (including self-priming topcoats).

(4) Averaging is not allowed between Type I and Type II chemical milling maskants.

(5) Averaging is not allowed between primers and chemical milling maskants, or between topcoats and chemical milling maskants.

(6) Each averaging scheme shall be approved in advance by the permitting agency and adopted as part of the facility's title V permit.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15017, Mar. 27, 1998; 71 FR 20457, Apr. 20, 2006]

§ 63.744 Standards: Cleaning operations.

(a) *Housekeeping measures.* Each owner or operator of a new or existing cleaning operation subject to this subpart shall comply with the requirements in these paragraphs unless the cleaning solvent used is identified in Table 1 of this section or contains HAP and VOC below the de minimis levels specified in §63.741(f).

(1) Unless the owner or operator satisfies the requirements in paragraph (a)(4) of this section, place used solvent-laden cloth, paper, or any other absorbent applicators used for cleaning in bags or other closed

containers. Ensure that these bags and containers are kept closed at all times except when depositing or removing these materials from the container. Use bags and containers of such design so as to contain the vapors of the cleaning solvent. Cotton-tipped swabs used for very small cleaning operations are exempt from this requirement.

(2) Unless the owner or operator satisfies the requirements in paragraph (a)(4) of this section, store fresh and spent cleaning solvents, except semi-aqueous solvent cleaners, used in aerospace cleaning operations in closed containers.

(4) Demonstrate to the Administrator (or delegated State, local, or Tribal authority) that equivalent or better alternative measures are in place compared to the use of closed containers for the solvent-laden materials described in paragraph (a)(1) of this section, or the storage of solvents described in paragraph (a)(2) of this section.

(3) Conduct the handling and transfer of cleaning solvents to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or spent cleaning solvents in such a manner that minimizes spills.

(b) *Hand-wipe cleaning.* Each owner or operator of a new or existing hand-wipe cleaning operation (excluding cleaning of spray gun equipment performed in accordance with paragraph (c) of this section) subject to this subpart shall use cleaning solvents that meet one of the requirements specified in paragraphs (b)(1), (b)(2), and (b)(3) of this section. Cleaning solvent solutions that contain HAP and VOC below the de minimis levels specified in §63.741(f) are exempt from the requirements in paragraphs (b)(1), (b)(2), and (b)(3) of this section.

(1) Meet one of the composition requirements in Table 1 of this section;

(2) Have a composite vapor pressure of 45 mm Hg (24.1 in. H₂O) or less at 20 °C (68 °F); or

(3) Demonstrate that the volume of hand-wipe solvents used in cleaning operations has been reduced by at least 60% from a baseline adjusted for production. The baseline shall be established as part of an approved alternative plan administered by the State. Demonstrate that the volume of hand-wipe cleaning solvents used in cleaning operations has been reduced by at least 60 percent from a baseline adjusted for production. The baseline shall be calculated using data from 1996 and 1997, or as otherwise agreed upon by the Administrator or delegated State Authority. The baseline shall be approved by the Administrator or delegated State Authority and shall be included as part of the facility's title V or part 70 permit.

(c) *Spray gun cleaning.* Each owner or operator of a new or existing spray gun cleaning operation subject to this subpart in which spray guns are used for the application of coatings or any other materials that require the spray guns to be cleaned shall use one or more of the techniques, or their equivalent, specified in paragraphs (c)(1) through (c)(4) of this section. Spray gun cleaning operations using cleaning solvent solutions that contain HAP and VOC below the de minimis levels specified in §63.741(f) are exempt from the requirements in paragraphs (c)(1) through (c)(4) of this section.

(1)(i) Enclosed system. Clean the spray gun in an enclosed system that is closed at all times except when inserting or removing the spray gun. Cleaning shall consist of forcing solvent through the gun.

(ii) If leaks are found during the monthly inspection required in §63.751(a), repairs shall be made as soon as practicable, but no later than 15 days after the leak was found. If the leak is not repaired by the 15th day after detection, the cleaning solvent shall be removed, and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued.

(2) *Nonatomized cleaning.* Clean the spray gun by placing cleaning solvent in the pressure pot and forcing it through the gun with the atomizing cap in place. No atomizing air is to be used. Direct the cleaning solvent from the spray gun into a vat, drum, or other waste container that is closed when not in use.

(3) Disassembled spray gun cleaning. Disassemble the spray gun and clean the components by hand in a vat, which shall remain closed at all times except when in use. Alternatively, soak the components in a vat, which shall remain closed during the soaking period and when not inserting or removing components.

(4) *Atomizing cleaning.* Clean the spray gun by forcing the cleaning solvent through the gun and direct the resulting atomized spray into a waste container that is fitted with a device designed to capture the atomized cleaning solvent emissions.

(5) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems that can be programmed to spray into a closed container, shall be exempt from the requirements of paragraph (c) of this section.

(d) *Flush cleaning.* Each owner or operator of a flush cleaning operation subject to this subpart (excluding those in which Table 1 or semi-aqueous cleaning solvents are used) shall empty the used cleaning solvent each time aerospace parts or assemblies, or components of a coating unit (with the exception of spray guns) are flush cleaned into an enclosed container or collection system that is kept closed when not in use or into a system with equivalent emission control.

(e) *Exempt cleaning operations.* The following cleaning operations are exempt from the requirements of paragraph (b) of this section:

(1) Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;

(2) Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);

(3) Cleaning and surface activation prior to adhesive bonding;

(4) Cleaning of electronic parts and assemblies containing electronic parts;

(5) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;

(6) Cleaning of fuel cells, fuel tanks, and confined spaces;

(7) Surface cleaning of solar cells, coated optics, and thermal control surfaces;

(8) Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used in the interior of the aircraft;

(9) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components;

(10) Cleaning of aircraft transparencies, polycarbonate, or glass substrates;

(11) Cleaning and cleaning solvent usage associated with research and development, quality control, and laboratory testing;

(12) Cleaning operations, using nonflammable liquids, conducted within five feet of energized electrical systems. Energized electrical systems means any AC or DC electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells and tail sections; and

(13) Cleaning operations identified as essential uses under the Montreal Protocol for which the Administrator has allocated essential use allowances or exemptions in 40 CFR 82.4.

Table 1—Composition Requirements for Approved Cleaning Solvents

Cleaning solvent type	Composition requirements
Aqueous	Cleaning solvents in which water is the primary ingredient (≥ 80 percent of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzyme mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g., high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, pH buffers, and antifoaming agents. Aqueous solutions must have a flash point greater than 93 °C (200° F) (as reported by the manufacturer), and the solution must be miscible with water.
Hydrocarbon-based	Cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20 °C (3.75 in. H ₂ O and 68 °F). These cleaners also contain no HAP.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15018, Mar. 27 1998; 63 FR 46533, Sept. 1, 1998; 68 FR 37352, June 23, 2003]

§ 63.745 Standards: Primer and topcoat application operations.

(a) Each owner or operator of a new or existing primer or topcoat application operation subject to this subpart shall comply with the requirements specified in paragraph (c) of this section for those coatings that are uncontrolled (no control device is used to reduce organic HAP emissions from the operation), and in paragraph (d) of this section for those coatings that are controlled (organic HAP emissions from the operation are reduced by the use of a control device). Aerospace equipment that is no longer operational, intended for public display, and not easily capable of being moved is exempt from the requirements of this section.

(b) Each owner or operator shall conduct the handling and transfer of primers and topcoats to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

(c) *Uncontrolled coatings—organic HAP and VOC content levels.* Each owner or operator shall comply with the organic HAP and VOC content limits specified in paragraphs (c)(1) through (c)(4) of this section for those coatings that are uncontrolled.

(1) Organic HAP emissions from primers shall be limited to an organic HAP content level of no more than: 540 g/L (4.5 lb/gal) of primer (less water), as applied, for general aviation rework facilities; or 650 g/L (5.4 lb/gal) of exterior primer (less water), as applied, to large commercial aircraft components (parts or assemblies) or fully assembled, large commercial aircraft at existing affected sources that produce fully assembled, large commercial aircraft; or 350 g/L (2.9 lb/gal) of primer (less water), as applied.

(2) VOC emissions from primers shall be limited to a VOC content level of no more than: 540 g/L (4.5 lb/gal) of primer (less water and exempt solvents), as applied, for general aviation rework facilities; or 650 g/L (5.4 lb/gal) of exterior primer (less water and exempt solvents), as applied, to large commercial aircraft components (parts or assemblies) or fully assembled, large commercial aircraft at existing affected sources

that produce fully assembled, large commercial aircraft; or 350 g/L (2.9 lb/gal) of primer (less water and exempt solvents), as applied.

(3) Organic HAP emissions from topcoats shall be limited to an organic HAP content level of no more than: 420 g/L (3.5 lb/gal) of coating (less water) as applied or 540 g/L (4.5 lb/gal) of coating (less water) as applied for general aviation rework facilities. Organic HAP emissions from self-priming topcoats shall be limited to an organic HAP content level of no more than: 420 g/L (3.5 lb/gal) of self-priming topcoat (less water) as applied or 540 g/L (4.5 lb/gal) of self-priming topcoat (less water) as applied for general aviation rework facilities.

(4) VOC emissions from topcoats shall be limited to a VOC content level of no more than: 420 g/L (3.5 lb/gal) of coating (less water and exempt solvents) as applied or 540 g/L (4.5 lb/gal) of coating (less water and exempt solvents) as applied for general aviation rework facilities. VOC emissions from self-priming topcoats shall be limited to a VOC content level of no more than: 420 g/L (3.5 lb/gal) of self-priming topcoat (less water and exempt solvents) as applied or 540 g/L (4.5 lb/gal) of self-priming topcoat (less water) as applied for general aviation rework facilities.

(d) *Controlled coatings—control system requirements.* Each control system shall reduce the operation's organic HAP and VOC emissions to the atmosphere by 81% or greater, taking into account capture and destruction or removal efficiencies, as determined using the procedures in §63.750(g) when a carbon adsorber is used and in §63.750(h) when a control device other than a carbon adsorber is used.

(e) *Compliance methods.* Compliance with the organic HAP and VOC content limits specified in paragraphs (c)(1) through (c)(4) of this section shall be accomplished by using the methods specified in paragraphs (e)(1) and (e)(2) of this section either by themselves or in conjunction with one another.

(1) Use primers and topcoats (including self-priming topcoats) with HAP and VOC content levels equal to or less than the limits specified in paragraphs (c)(1) through (c)(4) of this section; or

(2) Use the averaging provisions described in §63.743(d).

(f) *Application equipment.* Except as provided in paragraph (f)(3) of this section, each owner or operator of a new or existing primer or topcoat (including self-priming topcoat) application operation subject to this subpart in which any of the coatings contain organic HAP or VOC shall comply with the requirements specified in paragraphs (f)(1) and (f)(2) of this section.

(1) All primers and topcoats (including self-priming topcoats) shall be applied using one or more of the application techniques specified in paragraphs (f)(1)(i) through (f)(1)(ix) of this section.

(i) Flow/curtain coat application;

(ii) Dip coat application;

(iii) Roll coating;

(iv) Brush coating;

(v) Cotton-tipped swab application;

(vi) Electrodeposition (dip) coating;

(vii) High volume low pressure (HVLP) spraying;

(viii) Electrostatic spray application; or

(ix) Other coating application methods that achieve emission reductions equivalent to HVLP or electrostatic spray application methods, as determined according to the requirements in §63.750(i).

(2) All application devices used to apply primers or topcoats (including self-priming topcoats) shall be operated according to company procedures, local specified operating procedures, and/or the manufacturer's specifications, whichever is most stringent, at all times. Equipment modified by the facility shall maintain a transfer efficiency equivalent to HVLP and electrostatic spray application techniques.

(3) The following situations are exempt from the requirements of paragraph (f)(1) of this section:

(i) Any situation that normally requires the use of an airbrush or an extension on the spray gun to properly reach limited access spaces;

(ii) The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that the permitting agency has determined cannot be applied by any of the application methods specified in paragraph (f)(1) of this section;

(iii) The application of coatings that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.) and that the permitting agency has determined cannot be applied by any of the application methods specified in paragraph (f)(1) of this section;

(iv) The use of airbrush application methods for stenciling, lettering, and other identification markings;

(v) The use of hand-held spray can application methods; and

(vi) Touch-up and repair operations.

(g) *Inorganic HAP emissions.* Except as provided in paragraph (g)(4) of this section, each owner or operator of a new or existing primer or topcoat application operation subject to this subpart in which any of the coatings that are spray applied contain inorganic HAP, shall comply with the applicable requirements in paragraphs (g)(1) through (g)(3) of this section.

(1) Apply these coatings in a booth or hangar in which air flow is directed downward onto or across the part or assembly being coated and exhausted through one or more outlets.

(2) Control the air stream from this operation as follows:

(i) For existing sources, the owner or operator must choose one of the following:

(A) Before exhausting it to the atmosphere, pass the air stream through a dry particulate filter system certified using the methods described in §63.750(o) to meet or exceed the efficiency data points in Tables 1 and 2 of this section; or

Table 1—Two-Stage Arrestor; Liquid Phase Challenge for Existing Sources

Filtration efficiency requirement, %	Aerodynamic particle size range, µm
>90	>5.7
>50	>4.1
>10	>2.2

Table 2—Two-Stage Arrestor; Solid Phase Challenge for Existing Sources

Filtration efficiency requirement, %	Aerodynamic particle size range, µm
>90	>8.1
>50	>5.0
>10	>2.6

(B) Before exhausting it to the atmosphere, pass the air stream through a waterwash system that shall remain in operation during all coating application operations; or

(C) Before exhausting it to the atmosphere, pass the air stream through an air pollution control system that meets or exceeds the efficiency data points in Tables 1 and 2 of this section and is approved by the permitting authority.

(ii) For new sources, either:

(A) Before exhausting it to the atmosphere, pass the air stream through a dry particulate filter system certified using the methods described in §63.750(o) to meet or exceed the efficiency data points in Tables 3 and 4 of this section; or

Table 3—Three-Stage Arrestor; Liquid Phase Challenge for New Sources

Filtration efficiency requirement, %	Aerodynamic particle size range, µm
>95	>2.0
>80	>1.0
>65	>0.42

Table 4—Three-Stage Arrestor; Solid Phase Challenge for New Sources

Filtration efficiency requirement, %	Aerodynamic particle size range, µm
>95	>2.5
>85	>1.1
>75	>0.70

(B) Before exhausting it to the atmosphere, pass the air stream through an air pollution control system that meets or exceeds the efficiency data points in Tables 3 and 4 of this section and is approved by the permitting authority.

(iii) Owners or operators of new sources that have commenced construction or reconstruction after June 6, 1994 but prior to October 29, 1996 may comply with the following requirements in lieu of the requirements in paragraph (g)(2)(ii) of this section:

(A) Pass the air stream through either a two-stage dry particulate filter system or a waterwash system before exhausting it to the atmosphere.

(B) If the primer or topcoat contains chromium or cadmium, control shall consist of a HEPA filter system, three-stage filter system, or other control system equivalent to the three stage filter system as approved by the permitting agency.

(iv) If a dry particulate filter system is used, the following requirements shall be met:

(A) Maintain the system in good working order;

(B) Install a differential pressure gauge across the filter banks;

(C) Continuously monitor the pressure drop across the filter and read and record the pressure drop once per shift; and

(D) Take corrective action when the pressure drop exceeds or falls below the filter manufacturer's recommended limit(s).

(v) If a conventional waterwash system is used, continuously monitor the water flow rate and read and record the water flow rate once per shift. If a pumpless system is used, continuously monitor the booth parameter(s) that indicate performance of the booth per the manufacturer's recommendations to maintain the booth within the acceptable operating efficiency range and read and record the parameters once per shift.

(3) If the pressure drop across the dry particulate filter system, as recorded pursuant to §63.752(d)(1), is outside the limit(s) specified by the filter manufacturer or in locally prepared operating procedures, shut down the operation immediately and take corrective action. If the water path in the waterwash system fails the visual continuity/flow characteristics check, or the water flow rate recorded pursuant to §63.752(d)(2) exceeds the limit(s) specified by the booth manufacturer or in locally prepared operating procedures, or the booth manufacturer's or locally prepared maintenance procedures for the filter or waterwash system have not been performed as scheduled, shut down the operation immediately and take corrective action. The operation shall not be resumed until the pressure drop or water flow rate is returned within the specified limit(s).

(4) The requirements of paragraphs (g)(1) through (g)(3) of this section do not apply to the following:

(i) Touch-up of scratched surfaces or damaged paint;

(ii) Hole daubing for fasteners;

(iii) Touch-up of trimmed edges;

(iv) Coating prior to joining dissimilar metal components;

(v) Stencil operations performed by brush or air brush;

(vi) Section joining;

(vii) Touch-up of bushings and other similar parts;

(viii) Sealant detackifying;

(ix) Painting parts in an area identified in a title V permit, where the permitting authority has determined that it is not technically feasible to paint the parts in a booth; and

(x) The use of hand-held spray can application methods.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15019, Mar. 27, 1998; 63 FR 46533, Sept. 1, 1998; 65 FR 76945, Dec. 8, 2000]

§ 63.746 Standards: Depainting operations.

(a) *Applicability.* Each owner or operator of a new or existing depainting operation subject to this subpart shall comply with the requirements in paragraphs (a)(1) through (a)(3) of this section, and with the requirements specified in paragraph (b) where there are no controls for organic HAP, or paragraph (c) where organic HAP are controlled using a control system. This section does not apply to an aerospace manufacturing or rework facility that depaints six or less completed aerospace vehicles in a calendar year.

(1) The provisions of this section apply to the depainting of the outer surface areas of completed aerospace vehicles, including the fuselage, wings, and vertical and horizontal stabilizers of the aircraft, and the outer casing and stabilizers of missiles and rockets. These provisions do not apply to the depainting of parts or units normally removed from the aerospace vehicle for depainting. However, depainting of wings and stabilizers is always subject to the requirements of this section regardless of whether their removal is considered by the owner or operator to be normal practice for depainting.

(2) Aerospace vehicles or components that are intended for public display, no longer operational, and not easily capable of being moved are exempt from the requirements of this section.

(3) The following depainting operations are exempt from the requirements of this section:

(i) Depainting of radomes; and

(ii) Depainting of parts, subassemblies, and assemblies normally removed from the primary aircraft structure before depainting.

(b)(1) *HAP emissions—non-HAP chemical strippers and technologies.* Except as provided in paragraphs (b)(2) and (b)(3) of this section, each owner or operator of a new or existing aerospace depainting operation subject to this subpart shall emit no organic HAP from chemical stripping formulations and agents or chemical paint softeners.

(2) Where non-chemical based equipment is used to comply with paragraph (b)(1) of this section, either in total or in part, each owner or operator shall operate and maintain the equipment according to the manufacturer's specifications or locally prepared operating procedures. During periods of malfunctions of such equipment, each owner or operator may use substitute materials during the repair period provided the substitute materials used are those available that minimize organic HAP emissions. In no event shall substitute materials be used for more than 15 days annually, unless such materials are organic HAP-free.

(3) Each owner or operator of a new or existing depainting operation shall not, on an annual average basis, use more than 26 gallons of organic HAP-containing chemical strippers or alternatively 190 pounds of organic HAP per commercial aircraft depainted; or more than 50 gallons of organic HAP-containing chemical strippers or alternatively 365 pounds of organic HAP per military aircraft depainted for spot stripping and decal removal.

(4) Each owner or operator of a new or existing depainting operation complying with paragraph (b)(2), that generates airborne inorganic HAP emissions from dry media blasting equipment, shall also comply with the requirements specified in paragraphs (b)(4)(i) through (b)(4)(v) of this section.

(i) Perform the depainting operation in an enclosed area, unless a closed-cycle depainting system is used.

(ii)(A) For existing sources pass any air stream removed from the enclosed area or closed-cycle depainting system through a dry particulate filter system, certified using the method described in §63.750(o) to meet or exceed the efficiency data points in Tables 1 and 2 of §63.745, through a baghouse, or through a waterwash system before exhausting it to the atmosphere.

(B) For new sources pass any air stream removed from the enclosed area or closed-cycle depainting system through a dry particulate filter system certified using the method described in §63.750(o) to meet or exceed the efficiency data points in Tables 3 and 4 of §63.745 or through a baghouse before exhausting it to the atmosphere.

(c) Owners or operators of new sources that have commenced construction or reconstruction after June 6, 1994 but prior to October 29, 1996 may comply with the following requirements in lieu of the requirements in paragraph (b)(4)(ii)(B) of this section:

(1) Pass the air stream through either a two-stage dry particulate filter system or a waterwash system before exhausting it to the atmosphere.

(2) If the coating being removed contains chromium or cadmium, control shall consist of a HEPA filter system, three-stage filter system, or other control system equivalent to the three-stage filter system as approved by the permitting agency.

(iii) If a dry particulate filter system is used, the following requirements shall be met:

(A) Maintain the system in good working order;

(B) Install a differential pressure gauge across the filter banks;

(C) Continuously monitor the pressure drop across the filter, and read and record the pressure drop once per shift; and

(D) Take corrective action when the pressure drop exceeds or falls below the filter manufacturer's recommended limits.

(iv) If a waterwash system is used, continuously monitor the water flow rate, and read and record the water flow rate once per shift.

(v) If the pressure drop, as recorded pursuant to §63.752(e)(7), is outside the limit(s) specified by the filter manufacturer or in locally prepared operating procedures, whichever is more stringent, shut down the operation immediately and take corrective action. If the water path in the waterwash system fails the visual continuity/flow characteristics check, as recorded pursuant to §63.752(e)(7), or the water flow rate, as recorded pursuant to §63.752(d)(2), exceeds the limit(s) specified by the booth manufacturer or in locally prepared operating procedures, or the booth manufacturer's or locally prepared maintenance procedures for the filter or waterwash system have not been performed as scheduled, shut down the operation immediately and take corrective action. The operation shall not be resumed until the pressure drop or water flow rate is returned within the specified limit(s).

(5) Mechanical and hand sanding operations are exempt from the requirements in paragraph (b)(4) of this section.

(c) *Organic HAP emissions—organic HAP-containing chemical strippers.* Each owner or operator of a new or existing organic HAP-containing chemical stripper depainting operation subject to this subpart shall comply with the requirements specified in this paragraph.

(1) All organic HAP emissions from the operation shall be reduced by the use of a control system. Each control system that was installed before the effective date shall reduce the operations' organic HAP emissions to the atmosphere by 81 percent or greater, taking into account capture and destruction or removal efficiencies.

(2) Each control system installed on or after the effective date shall reduce organic HAP emissions to the atmosphere by 95 percent or greater. Reduction shall take into account capture and destruction or removal efficiencies, and may take into account the volume of chemical stripper used relative to baseline levels (e.g., the 95 percent efficiency may be achieved by controlling emissions at 81 percent efficiency with a control system and using 74 percent less stripper than in baseline applications). The baseline shall be calculated using data from 1996 and 1997, which shall be on a usage per aircraft or usage per square foot of surface basis.

(3) The capture and destruction or removal efficiencies are to be determined using the procedures in §63.750(g) when a carbon adsorber is used and those in §63.750(h) when a control device other than a carbon adsorber is used.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15020, Mar. 27, 1998; 63 FR 46533, Sept. 1, 1998]

§ 63.747 Standards: Chemical milling maskant application operations.

(a) Each owner or operator of a new or existing chemical milling maskant operation subject to this subpart shall comply with the requirements specified in paragraph (c) of this section for those chemical milling maskants that are uncontrolled (no control device is used to reduce organic HAP emissions from the operation) and in paragraph (d) of this section for those chemical milling maskants that are controlled (organic HAP emissions from the operation are reduced by the use of a control device).

(b) Each owner or operator shall conduct the handling and transfer of chemical milling maskants to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

(c) *Uncontrolled maskants—organic HAP and VOC content levels.* Each owner or operator shall comply with the organic HAP and VOC content limits specified in paragraphs (c)(1) and (c)(2) of this section for each chemical milling maskant that is uncontrolled.

(1) Organic HAP emissions from chemical milling maskants shall be limited to organic HAP content levels of no more than 622 grams of organic HAP per liter (5.2 lb/gal) of Type I chemical milling maskant (less water) as applied, and no more than 160 grams of organic HAP per liter (1.3 lb/gal) of Type II chemical milling maskant (less water) as applied.

(2) VOC emissions from chemical milling maskants shall be limited to VOC content levels of no more than 622 grams of VOC per liter (5.2 lb/gal) of Type I chemical milling maskant (less water and exempt solvents) as applied, and no more than 160 grams of VOC per liter (1.3 lb/gal) of Type II chemical milling maskant (less water and exempt solvents) as applied.

(3) The requirements of paragraphs (c)(1) and (c)(2) of this section do not apply to the following:

(i) Touch-up of scratched surfaces or damaged maskant; and

(ii) Touch-up of trimmed edges.

(d) *Controlled maskants—control system requirements.* Each control system shall reduce the operation's organic HAP and VOC emissions to the atmosphere by 81% or greater, taking into account capture and destruction or removal efficiencies, as determined using the procedures in §63.750(g) when a carbon adsorber is used and in §63.750(h) when a control device other than a carbon adsorber is used.

(e) *Compliance methods.* Compliance with the organic HAP and VOC content limits specified in paragraphs (c)(1) and (c)(2) of this section may be accomplished by using the methods specified in paragraphs (e)(1) and (e)(2) of this section either by themselves or in conjunction with one another.

(1) Use chemical milling maskants with HAP and VOC content levels equal to or less than the limits specified in paragraphs (c)(1) and (c)(2) of this section.

(2) Use the averaging provisions described in §63.743(d).

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15021, Mar. 27, 1998]

§ 63.748 Standards: Handling and storage of waste.

Except as provided in §63.741(e), the owner or operator of each facility subject to this subpart that produces a waste that contains HAP shall conduct the handling and transfer of the waste to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

§ 63.749 Compliance dates and determinations.

(a) *Compliance dates.* (1) Each owner or operator of an existing affected source subject to this subpart shall comply with the requirements of this subpart by September 1, 1998, except as specified in paragraph (a)(2) of this section. Owners or operators of new affected sources subject to this subpart shall comply on the effective date or upon startup, whichever is later. In addition, each owner or operator shall comply with the compliance dates specified in §63.6(b) and (c).

(2) Owners or operators of existing primer or topcoat application operations and depainting operations who construct or reconstruct a spray booth or hangar must comply with the new source requirements for inorganic HAP specified in §§63.745(g)(2)(ii) and 63.746(b)(4) for that new spray booth or hangar upon startup. Such sources must still comply with all other existing source requirements by September 1, 1998.

(b) *General.* Each facility subject to this subpart shall be considered in noncompliance if the owner or operator fails to submit a startup, shutdown, and malfunction plan as required by §63.743(b) or uses a control device other than one specified in this subpart that has not been approved by the Administrator, as required by §63.743(c).

(c) *Cleaning operations.* Each cleaning operation subject to this subpart shall be considered in noncompliance if the owner or operator fails to institute and carry out the housekeeping measures required under §63.744(a). Incidental emissions resulting from the activation of pressure release vents and valves on enclosed cleaning systems are exempt from this paragraph.

(1) *Hand-wipe cleaning.* An affected hand-wipe cleaning operation shall be considered in compliance when all hand-wipe cleaning solvents, excluding those used for hand cleaning of spray gun equipment under §63.744(c)(3), meet either the composition requirements specified in §63.744(b)(1) or the vapor pressure requirement specified in §63.744(b)(2).

(2) *Spray gun cleaning.* An affected spray gun cleaning operation shall be considered in compliance when each of the following conditions is met:

(i) One of the four techniques specified in §63.744 (c)(1) through (c)(4) is used;

(ii) The technique selected is operated according to the procedures specified in §63.744 (c)(1) through (c)(4) as appropriate; and

(iii) If an enclosed system is used, monthly visual inspections are conducted and any leak detected is repaired within 15 days after detection. If the leak is not repaired by the 15th day after detection, the solvent

shall be removed and the enclosed cleaner shall be shut down until the cleaner is repaired or its use is permanently discontinued.

(3) *Flush cleaning.* An affected flush cleaning operation shall be considered in compliance if the operating requirements specified in §63.744(d) are implemented and carried out.

(d) *Organic HAP and VOC content levels—primer and topcoat application operations—* (1) *Performance test periods.* For uncontrolled coatings that are not averaged, each 24 hours is considered a performance test. For compliant and non-compliant coatings that are averaged together, each 30-day period is considered a performance test, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program. When using a control device other than a carbon adsorber, three 1-hour runs constitute the test period for the initial and any subsequent performance test. When using a carbon adsorber, each rolling material balance period is considered a performance test.

(2) *Initial performance tests.* If a control device is used, each owner or operator shall conduct an initial performance test to demonstrate compliance with the overall reduction efficiency specified in paragraph §63.745, unless a waiver is obtained under either §63.7(e)(2)(iv) or §63.7(h). The initial performance test shall be conducted according to the procedures and test methods specified in §63.7 and §63.750(g) for carbon adsorbers and in §63.750(h) for control devices other than carbon adsorbers. For carbon adsorbers, the initial performance test shall be used to establish the appropriate rolling material balance period for determining compliance. The procedures in paragraphs (d)(2)(i) through (d)(2)(vi) of this section shall be used in determining initial compliance with the provisions of this subpart for carbon adsorbers.

(i)(A) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all the individual carbon adsorber vessels pursuant to §63.750(g) (2) or (4), the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all of the individual carbon adsorber vessels.

(B) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon adsorber vessel pursuant to §63.750(g) (3) or (4), each carbon adsorber vessel shall be tested individually. The test for each carbon adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(ii) EPA Method 1 or 1A of appendix A of part 60 is used for sample and velocity traverses.

(iii) EPA Method 2, 2A, 2C, or 2D of appendix A of part 60 is used for velocity and volumetric flow rates.

(iv) EPA Method 3 of appendix A of part 60 is used for gas analysis.

(v) EPA Method 4 of appendix A of part 60 is used for stack gas moisture.

(vi) EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test period.

(3) The primer application operation is considered in compliance when the conditions specified in paragraphs (d)(3)(i) through (d)(3)(iv) of this section, as applicable, and in paragraph (e) of this section are met. Failure to meet any one of the conditions identified in these paragraphs shall constitute noncompliance.

(i) For all uncontrolled primers, all values of H_i and H_a (as determined using the procedures specified in §63.750 (c) and (d)) are less than or equal to 350 grams of organic HAP per liter (2.9 lb/gal) of primer (less water) as applied, and all values of G_i and G_a (as determined using the procedures specified in §63.750 (e) and (f)) are less than or equal to 350 grams of organic VOC per liter (2.9 lb/gal) of primer (less water and exempt solvents) as applied.

(ii) If a control device is used:

(A) The overall control system efficiency, E_k , as determined using the procedures specified in §63.750(g) for control systems containing carbon adsorbers and in §63.750(h) for control systems with other control devices, is equal to or greater than 81% during the initial performance test and any subsequent performance test;

(B) If an incinerator other than a catalytic incinerator is used, the average combustion temperature for all 3-hour periods is greater than or equal to the average combustion temperature established under §63.751(b)(11); and

(C) If a catalytic incinerator is used, the average combustion temperatures for all 3-hour periods are greater than or equal to the average combustion temperatures established under §63.751(b)(12).

(iii)(A) Uses an application technique specified in §63.745 (f)(1)(i) through (f)(1)(viii), or

(B) Uses an alternative application technique, as allowed under §63.745(f)(1)(ix), such that the emissions of both organic HAP and VOC for the implementation period of the alternative application method are less than or equal to the emissions generated using HVLP or electrostatic spray application methods as determined using the procedures specified in §63.750(i).

(iv) Operates all application techniques in accordance with the manufacturer's specifications or locally prepared operating procedures, whichever is more stringent.

(4) The topcoat application operation is considered in compliance when the conditions specified in paragraphs (e)(4)(i) through (e)(4)(iv) of this section, as applicable, and in paragraph (f) of this section are met. Failure to meet any of the conditions identified in these paragraphs shall constitute noncompliance.

(i) For all uncontrolled topcoats, all values of H_i and H_a (as determined using the procedures specified in §63.750(c) and (d)) are less than or equal to 420 grams organic HAP per liter (3.5 lb/gal) of topcoat (less water) as applied, and all values of G_i and G_a (as determined using the procedures specified in §63.750(e) and (f)) are less than or equal to 420 grams organic VOC per liter (3.5 lb/gal) of topcoat (less water and exempt solvents) as applied.

(ii) If a control device is used,

(A) The overall control system efficiency, E_k , as determined using the procedures specified in §63.750(g) for control systems containing carbon adsorbers and in §63.750(h) for control systems with other control devices, is equal to or greater than 81% during the initial performance test and any subsequent performance test;

(B) If an incinerator other than a catalytic incinerator is used, the average combustion temperature for all 3-hour periods is greater than or equal to the average combustion temperature established under §63.751(b)(11); and

(C) If a catalytic incinerator is used, the average combustion temperatures for all 3-hour periods are greater than or equal to the average combustion temperatures established under §63.751(b)(12).

(iii)(A) Uses an application technique specified in §63.745 (f)(1)(i) through (f)(1)(viii); or

(B) Uses an alternative application technique, as allowed under §63.745(f)(1)(ix), such that the emissions of both organic HAP and VOC for the implementation period of the alternative application method are less than or equal to the emissions generated using HVLP or electrostatic spray application methods as determined using the procedures specified in §63.750(i).

(iv) Operates all application techniques in accordance with the manufacturer's specifications or locally prepared operating procedures.

(e) *Inorganic HAP emissions—primer and topcoat application operations.* For each primer or topcoat application operation that emits inorganic HAP, the operation is in compliance when:

(1) It is operated according to the requirements specified in §63.745(g)(1) through (g)(3); and

(2) It is shut down immediately whenever the pressure drop or water flow rate is outside the limit(s) established for them and is not restarted until the pressure drop or water flow rate is returned within these limit(s), as required under §63.745(g)(3).

(f) *Organic HAP emissions—Depainting operations— (1) Performance test periods.* When using a control device other than a carbon adsorber, three 1-hour runs constitute the test period for the initial and any subsequent performance test. When a carbon adsorber is used, each rolling material balance period is considered a performance test. Each 24-hour period is considered a performance test period for determining compliance with §63.746(b)(1). For uncontrolled organic emissions from depainting operations, each calendar year is considered a performance test period for determining compliance with the HAP limits for organic HAP-containing chemical strippers used for spot stripping and decal removal.

(2) *Initial performance tests.* If a control device is used, each owner or operator shall conduct an initial performance test to demonstrate compliance with the overall reduction efficiency specified in §63.746(c), unless a waiver is obtained under either §63.7(e)(2)(iv) or §63.7(h). The initial performance test shall be conducted according to the procedures and test methods specified in §63.7 and §63.750(g) for carbon adsorbers and in §63.750(h) for control devices other than carbon adsorbers. For carbon adsorbers, the initial performance test shall be used to establish the appropriate rolling material balance period for determining compliance. The procedures in paragraphs (2)(i) through (2)(vi) of this section shall be used in determining initial compliance with the provisions of this subpart for carbon adsorbers.

(i)(A) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all the individual carbon adsorber vessels pursuant to §63.750(g)(2) or (4), the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all of the individual carbon adsorber vessels.

(B) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon adsorber vessel pursuant to §63.750(g) (3) or (4), each carbon adsorber vessel shall be tested individually. The test for each carbon adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(ii) EPA Method 1 or 1A of appendix A of part 60 is used for sample and velocity traverses.

(iii) EPA Method 2, 2A, 2C, or 2D of appendix A of part 60 is used for velocity and volumetric flow rates.

(iv) EPA Method 3 of appendix A of part 60 is used for gas analysis.

(v) EPA Method 4 of appendix A of part 60 is used for stack gas moisture.

(vi) EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test period.

(3) An organic HAP-containing chemical stripper depainting operation is considered in compliance when the conditions specified in paragraph (g)(3)(i) of this section are met.

(i) If a carbon adsorber (or other control device) is used, the overall control efficiency of the control system, as determined using the procedures specified in §63.750(g) (or other control device as determined using the procedures specified in §63.750(h)), is equal to or greater than 81% for control systems installed before the effective date, or equal to or greater than 95% for control systems installed on or after the effective date, during the initial performance test and all subsequent material balances (or performance tests, as appropriate).

(ii) For non-HAP depainting operations complying with §63.746(b)(1);

(A) For any spot stripping and decal removal, the value of C, as determined using the procedures specified in §63.750(j), is less than or equal to 26 gallons of organic HAP-containing chemical stripper or 190 pounds of organic HAP per commercial aircraft depainted calculated on a yearly average; and is less than or equal to 50 gallons of organic HAP-containing chemical stripper or 365 pounds of organic HAP per military aircraft depainted calculated on a yearly average; and

(B) The requirements of §63.746(b)(2) are carried out during malfunctions of non-chemical based equipment.

(g) *Inorganic HAP emissions—depainting operations.* Each depainting operation is in compliance when:

(1) The operating requirements specified in §63.746(b)(4) are followed; and

(2) It is shut down immediately whenever the pressure drop or water flow rate is outside the limit(s) established for them and is not restarted until the pressure drop or water flow rate is returned within these limit(s), as required under §63.746(b)(4)(v).

(h) *Chemical milling maskant application operations* —(1) *Performance test periods.* For uncontrolled chemical milling maskants that are not averaged, each 24-hour period is considered a performance test. For compliant and noncompliant chemical milling maskants that are averaged together, each 30-day period is considered a performance test, unless the permitting agency specifies a shorter period as part of an ambient ozone control program. When using a control device other than a carbon adsorber, three 1-hour runs constitute the test period for the initial and any subsequent performance test. When a carbon adsorber is used, each rolling material balance period is considered a performance test.

(2) *Initial performance tests.* If a control device is used, each owner or operator shall conduct an initial performance test to demonstrate compliance with the overall reduction efficiency specified in §63.747(d), unless a waiver is obtained under either §63.7(e)(2)(iv) or §63.7(h). The initial performance test shall be conducted according to the procedures and test methods specified in §63.7 and §63.750(g) for carbon adsorbers and in §63.750(h) for control devices other than carbon adsorbers. For carbon adsorbers, the initial performance test shall be used to establish the appropriate rolling material balance period for determining compliance. The procedures in paragraphs (h)(2) (i) through (vi) of this section shall be used in determining initial compliance with the provisions of this subpart for carbon adsorbers.

(i)(A) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all the individual carbon adsorber vessels pursuant to §63.750(g) (2) or (4), the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all of the individual carbon adsorber vessels.

(B) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon adsorber vessel pursuant to §63.750(g) (3) or (4), each carbon adsorber vessel shall be tested individually. The test for each carbon adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(ii) EPA Method 1 or 1A of appendix A of part 60 is used for sample and velocity traverses.

- (iii) EPA Method 2, 2A, 2C, or 2D of appendix A of part 60 is used for velocity and volumetric flow rates.
- (iv) EPA Method 3 of appendix A of part 60 is used for gas analysis.
- (v) EPA Method 4 of appendix A of part 60 is used for stack gas moisture.
- (vi) EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test period.

(3) The chemical milling maskant application operation is considered in compliance when the conditions specified in paragraphs (i)(3)(i) and (i)(3)(ii) of this section are met.

(i) For all uncontrolled chemical milling maskants, all values of H_i and H_a (as determined using the procedures specified in §63.750 (k) and (l)) are less than or equal to 622 grams of organic HAP per liter (5.2 lb/gal) of Type I chemical milling maskant as applied (less water), and 160 grams of organic HAP per liter (1.3 lb/gal) of Type II chemical milling maskant as applied (less water). All values of G_i and G_a (as determined using the procedures specified in §63.750 (m) and (n)) are less than or equal to 622 grams of VOC per liter (5.2 lb/gal) of Type I chemical milling maskant as applied (less water and exempt solvents), and 160 grams of VOC per liter (1.3 lb/gal) of Type II chemical milling maskant (less water and exempt solvents) as applied.

(ii) If a carbon adsorber (or other control device) is used, the overall control efficiency of the control system, as determined using the procedures specified in §63.750(g) (or systems with other control devices as determined using the procedures specified in §63.750(h)), is equal to or greater than 81% during the initial performance test period and all subsequent material balances (or performance tests, as appropriate).

(i) *Handling and storage of waste.* For those wastes subject to this subpart, failure to comply with the requirements specified in §63.748 shall be considered a violation.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15021, Mar. 27, 1998]

§ 63.750 Test methods and procedures.

(a) *Composition determination.* Compliance with the hand-wipe cleaning solvent approved composition list specified in §63.744(b)(1) for hand-wipe cleaning solvents shall be demonstrated using data supplied by the manufacturer of the cleaning solvent. The data shall identify all components of the cleaning solvent and shall demonstrate that one of the approved composition definitions is met.

(b) *Vapor pressure determination.* The composite vapor pressure of hand-wipe cleaning solvents used in a cleaning operation subject to this subpart shall be determined as follows:

(1) For single-component hand-wipe cleaning solvents, the vapor pressure shall be determined using MSDS or other manufacturer's data, standard engineering reference texts, or other equivalent methods.

(2) The composite vapor pressure of a blended hand-wipe solvent shall be determined by quantifying the amount of each organic compound in the blend using manufacturer's supplied data or a gas chromatographic analysis in accordance with ASTM E 260–91 or 96 (incorporated by reference—see §63.14 of subpart A of this part) and by calculating the composite vapor pressure of the solvent by summing the partial pressures of each component. The vapor pressure of each component shall be determined using manufacturer's data, standard engineering reference texts, or other equivalent methods. The following equation shall be used to determine the composite vapor pressure:

$$PP_c = \frac{\sum_{i=1}^n \frac{(W_i)(VP_i)/MW_i}{\frac{W_w}{MW_w} + \sum_{e=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

where:

W_i =Weight of the "i"th VOC compound, grams.

W_w =Weight of water, grams.

W_e =Weight of non-HAP, nonVOC compound, grams.

MW_i =Molecular weight of the "i"th VOC compound, g/g-mole.

MW_w =Molecular weight of water, g/g-mole.

MW_e =Molecular weight of exempt compound, g/g-mole.

PP_c =VOC composite partial pressure at 20 °C, mm Hg.

VP_i =Vapor pressure of the "i"th VOC compound at 20 °C, mm Hg.

(c) *Organic HAP content level determination—compliant primers and topcoats.* For those uncontrolled primers and topcoats complying with the primer and topcoat organic HAP content limits specified in §63.745(c) without being averaged, the following procedures shall be used to determine the mass of organic HAP emitted per volume of coating (less water) as applied.

(1) For coatings that contain no exempt solvents, determine the total organic HAP content using manufacturer's supplied data or Method 24 of 40 CFR part 60, appendix A, to determine the VOC content. The VOC content shall be used as a surrogate for total HAP content for coatings that contain no exempt solvent. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 24 analysis, compliance shall be based on the results from the Method 24 analysis.

When Method 24 is used to determine the VOC content of water-reducible coatings, the precision adjustment factors in Reference Method 24 shall be used. If the adjusted analytical VOC content is less than the formulation solvent content, then the analytical VOC content should be set equal to the formulation solvent content.

(2) For each coating formulation as applied, determine the organic HAP weight fraction, water weight fraction (if applicable), and density from manufacturer's data. If these values cannot be determined using the manufacturer's data, the owner or operator shall submit an alternative procedure for determining their values for approval by the Administrator. Recalculation is required only when a change occurs in the coating formulation.

(3) For each coating as applied, calculate the mass of organic HAP emitted per volume of coating (lb/gal) less water as applied using equations 1, 2, and 3:

$$V_{wi} = \frac{D_c W_{wi}}{D_w} \quad \text{Eq. 1}$$

where:

V_{wi} =volume (gal) of water in one gal of coating i.

D_{ci} =density (lb of coating per gal of coating) of coating i.

W_{wi} =weight fraction (expressed as a decimal) of water in coating i.

D_w =density of water, 8.33 lb/gal.

$$M_H = D_c W_H \quad Eq. 2$$

where:

M_{Hi} =mass (lb) of organic HAP in one gal of coating i.

D_{ci} =density (lb of coating per gal of coating) of coating i.

W_{Hi} =weight fraction (expressed as a decimal) of organic HAP in coating i.

$$H_i = \frac{M_{Hi}}{(1 - V_{wi})} \quad Eq. 3$$

where:

H_i =mass of organic HAP emitted per volume of coating i (lb/gal) less water as applied.

M_{Hi} =mass (lb) of organic HAP in one gal of coating i.

V_{wi} =volume (gal) of water in one gal of coating i.

(d) *Organic HAP content level determination—averaged primers and topcoats.* For those uncontrolled primers and topcoats that are averaged together in order to comply with the primer and topcoat organic HAP content limits specified in §63.745(c), the following procedure shall be used to determine the monthly volume-weighted average mass of organic HAP emitted per volume of coating (less water) as applied, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(1)(i) Determine the total organic HAP weight fraction as applied of each coating. If any ingredients, including diluent solvent, are added to a coating prior to its application, the organic HAP weight fraction of the coating shall be determined at a time and location in the process after all ingredients have been added.

(ii) Determine the total organic HAP weight fraction of each coating as applied each month.

(A) If no changes have been made to a coating, either as supplied or as applied, or if a change has been made that has a minimal effect on the organic HAP content of the coating, the value previously determined may continue to be used until a change in formulation has been made by either the manufacturer or the user.

(B) If a change in formulation or a change in the ingredients added to the coating takes place, including the ratio of coating to diluent solvent, prior to its application, either of which results in a more than minimal effect on the organic HAP content of the coating, the total organic HAP weight fraction of the coating shall be redetermined.

(iii) Manufacturer's formulation data may be used to determine the total organic HAP content of each coating and any ingredients added to the coating prior to its application. If the total organic HAP content cannot be determined using the manufacturer's data, the owner or operator shall submit an alternative procedure for determining the total organic HAP weight fraction for approval by the Administrator.

(2)(i) Determine the volume both in total gallons as applied and in total gallons (less water) as applied of each coating. If any ingredients, including diluent solvents, are added prior to its application, the volume of each coating shall be determined at a time and location in the process after all ingredients (including any diluent solvent) have been added.

(ii) Determine the volume of each coating (less water) as applied each month, unless the permitting agency specifies a shorter period as part of an ambient ozone control program.

(iii) The volume applied may be determined from company records.

(3)(i) Determine the density of each coating as applied. If any ingredients, including diluent solvent, are added to a coating prior to its application, the density of the coating shall be determined at a time and location in the process after all ingredients have been added.

(ii) Determine the density of each coating as applied each month, unless the permitting agency specifies a shorter period as part of an ambient ozone control program.

(A) If no changes have been made to a coating, either as supplied or as applied, or if a change has been made that has a minimal effect on the density of the coating, then the value previously determined may continue to be used until a change in formulation has been made by either the manufacturer or the user.

(B) If a change in formulation or a change in the ingredients added to the coating takes place, including the ratio of coating to diluent solvent, prior to its application, either of which results in a more than minimal effect on the density of the coating, then the density of the coating shall be redetermined.

(iii) The density may be determined from company records, including manufacturer's data sheets. If the density of the coating cannot be determined using the company's records, including the manufacturer's data, then the owner or operator shall submit an alternative procedure for determining the density for approval by the Administrator.

(4) Calculate the total volume in gallons as applied (less water) by summing the individual volumes of each coating (less water) as applied, which were determined under paragraph (d)(2) of this section.

(5) Calculate the volume-weighted average mass of organic HAP in coatings emitted per unit volume (lb/gal) of coating (less water) as applied during each 30-day period using equation 4:

$$H_a = \frac{\sum_{i=1}^n W_{HAP} D_a V_i}{C_{dw}} \quad Eq. 4$$

where:

H_a =volume-weighted average mass of organic HAP emitted per unit volume of coating (lb/gal) (less water) as applied during each 30-day period for those coatings being averaged.

n =number of coatings being averaged.

W_{Hi} =weight fraction (expressed as a decimal) of organic HAP in coating i as applied that is being averaged during each 30-day period.

D_{ci} =density (lb of coating per gal of coating) of coating i as applied that is being averaged during each 30-day period.

V_{ci} =volume (gal) of coating i as applied that is being averaged during the 30-day period.

C_{1w} =total volume (gal) of all coatings (less water) as applied that are being averaged during each 30-day period.

(e) *VOC content level determination—compliant primers and topcoats.* For those uncontrolled primers and topcoats complying with the primer and topcoat VOC content levels specified in §63.745(c) without being averaged, the following procedure shall be used to determine the mass of VOC emitted per volume of coating (less water and exempt solvents) as applied.

(1) Determine the VOC content of each formulation (less water and exempt solvents) as applied using manufacturer's supplied data or Method 24 of 40 CFR part 60, appendix A, to determine the VOC content. The VOC content shall be used as a surrogate for total HAP content for coatings that contain no exempt solvent. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 24 analysis, compliance shall be based on the results from the Method 24 analysis.

When Method 24 is used to determine the VOC content of water-reducible coatings, the precision adjustment factors in Reference Method 24 shall be used. If the adjusted analytical VOC content is less than the formulation solvent content, then the analytical VOC content should be set equal to the formulation solvent content.

(2) For each coating applied, calculate the mass of VOC emitted per volume of coating (lb/gal) (less water and exempt solvents) as applied using equations 5, 6, and 7:

$$V_{wi} = \frac{D_{ci} W_{wi}}{D_w} \quad \text{Eq. 5}$$

where:

V_{wi} =volume (gal) of water in one gal of coating i .

D_{ci} =density (lb of coating per gal of coating) of coating i .

W_{wi} =weight fraction (expressed as a decimal) of water in coating i .

D_w =density of water, 8.33 lb/gal.

$$M_{wi} = D_{ci} W_{wi} \quad \text{Eq. 6}$$

where:

M_{vi} =mass (lb) of VOC in one gal of coating i.

D_{ci} =density (lb of coating per gal of coating) of coating i.

W_{vi} =weight fraction (expressed as a decimal) of VOC in coating i.

$$G_i = \frac{M_{vi}}{(1 - V_{wi}) - V_{xi}} \quad \text{Eq. 7}$$

where:

G_i =mass of VOC emitted per volume of coating i (lb/gal) (less water and exempt solvents) as applied.

M_{vi} =mass (lb) of VOC in one gal of coating i.

V_{wi} =volume (gal) of water in one gal of coating i.

V_{xi} =volume (gal) of exempt solvents in one gal of coating i.

(3)(i) If the VOC content is found to be different when EPA Method 24 is used during an enforcement inspection from that used by the owner or operator in calculating G_a , compliance shall be based, except as provided in paragraph (e)(3)(ii) of this section, upon the VOC content obtained using EPA Method 24.

(ii) If the VOC content of a coating obtained using Method 24 would indicate noncompliance as determined under either §63.749 (d)(3)(i) or (d)(4)(i), an owner or operator may elect to average the coating with other uncontrolled coatings and (re)calculate G_i (using the procedure specified in paragraph (f) of this section), provided appropriate and sufficient records were maintained for all coatings included in the average (re)calculation. The (re)calculated value of G_i (G_a in paragraph (f)) for the averaged coatings shall then be used to determine compliance.

(f) *VOC content level determination—averaged primers and topcoats.* For those uncontrolled primers and topcoats that are averaged within their respective coating category in order to comply with the primer and topcoat VOC content limits specified in §63.745 (c)(2) and (c)(4), the following procedure shall be used to determine the monthly volume-weighted average mass of VOC emitted per volume of coating (less water and exempt solvents) as applied, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(1)(i) Determine the VOC content (lb/gal) as applied of each coating. If any ingredients, including diluent solvent, are added to a coating prior to its application, the VOC content of the coating shall be determined at a time and location in the process after all ingredients have been added.

(ii) Determine the VOC content of each coating as applied each month, unless the permitting agency specifies a shorter period as part of an ambient ozone control program.

(A) If no changes have been made to a coating, either as supplied or as applied, or if a change has been made that has a minimal effect on the VOC content of the coating, the value previously determined may continue to be used until a change in formulation has been made by either the manufacturer or the user.

(B) If a change in formulation or a change in the ingredients added to the coating takes place, including the ratio of coating to diluent solvent, prior to its application, either of which results in a more than minimal effect on the VOC content of the coating, the VOC content of the coating shall be redetermined.

(iii) Determine the VOC content of each primer and topcoat formulation (less water and exempt solvents) as applied using EPA Method 24 or from manufacturer's data.

(2)(i) Determine the volume both in total gallons as applied and in total gallons (less water and exempt solvents) as applied of each coating. If any ingredients, including diluent solvents, are added prior to its application, the volume of each coating shall be determined at a time and location in the process after all ingredients (including any diluent solvent) have been added.

(ii) Determine the volume of each coating (less water and exempt solvents) as applied each day.

(iii) The volume applied may be determined from company records.

(3) Calculate the total volume in gallons (less water and exempt solvents) as applied by summing the individual volumes of each coating (less water and exempt solvents) as applied, which were determined under paragraph (f)(2) of this section.

(4) Calculate the volume-weighted average mass of VOC emitted per unit volume (lb/gal) of coating (less water and exempt solvents) as applied for each coating category during each 30-day period using equation 8:

$$G_a = \frac{\sum_{i=1}^n (VOC)_{ci} V_{ci}}{C_{lwes}} \quad Eq. 8$$

where:

G_a =volume weighted average mass of VOC per unit volume of coating (lb/gal) (less water and exempt solvents) as applied during each 30-day period for those coatings being averaged.

n =number of coatings being averaged.

$(VOC)_{ci}$ =VOC content (lb/gal) of coating i (less water and exempt solvents) as applied (as determined using the procedures specified in paragraph (f)(1) of this section) that is being averaged during the 30-day period.

V_{ci} =volume (gal) of coating i (less water and exempt solvents) as applied that is being averaged during the 30-day period.

C_{lwes} =total volume (gal) of all coatings (less water and exempt solvents) as applied during each 30-day period for those coatings being averaged.

(5)(i) If the VOC content is found to be different when EPA Method 24 is used during an enforcement inspection from that used by the owner or operator in calculating G_a , recalculation of G_a is required using the new value. If more than one coating is involved, the recalculation shall be made once using all of the new values.

(ii) If recalculation is required, an owner or operator may elect to include in the recalculation of G_a uncontrolled coatings that were not previously included provided appropriate and sufficient records were maintained for these other coatings to allow daily recalculations.

(iii) The recalculated value of G_a under either paragraph (f)(5)(i) or (f)(5)(ii) of this section shall be used to determine compliance.

(g) *Overall VOC and/or organic HAP control efficiency—carbon adsorber.* Each owner or operator subject to the requirements of §63.745(d), §63.746(c), or §63.747(d) shall demonstrate initial compliance with the requirements of this subpart by following the procedures of paragraph (g)(1), (2), (3), (4), or (5) as applicable and paragraphs (6), (7), and (8) of this section. When an initial compliance demonstration is required by this subpart, the procedures in paragraphs (g)(9) through (g)(14) of this section shall be used in determining initial compliance with the provisions of this subpart.

(1) To demonstrate initial and continuous compliance with §63.745(d), §63.746(c), or §63.747(d) when emissions are controlled by a dedicated solvent recovery device, each owner or operator of the affected operation may perform a liquid-liquid HAP or VOC material balance over rolling 7- to 30-day periods in lieu of demonstrating compliance through the methods in paragraph (g)(2), (g)(3), or (g)(4) of this section. Results of the material balance calculations performed to demonstrate initial compliance shall be submitted to the Administrator with the notification of compliance status required by §63.9(h) and by §63.753 (c)(1)(iv), (d)(3)(i), and (e)(3). When demonstrating compliance by this procedure, §63.7(e)(3) of subpart A does not apply. The amount of liquid HAP or VOC applied and recovered shall be determined as discussed in paragraph (g)(1)(iii) of this section. The overall HAP or VOC emission reduction (R) is calculated using equation 9:

$$R = \frac{M_r}{\sum_{i=1}^n [W_{oi} M_{ci} - RS_i]} \times 100 \quad Eq. 9$$

(i) The value of RS_i is zero unless the owner or operator submits the following information to the Administrator for approval of a measured RS_i value that is greater than zero:

(A) Measurement techniques; and

(B) Documentation that the measured value of RS_i exceeds zero.

(ii) The measurement techniques of paragraph (g)(1)(i)(A) of this section shall be submitted to the Administrator for approval with the notification of performance test required under §63.7(b).

(iii) Each owner or operator demonstrating compliance by the test method described in paragraph (g)(1) of this section shall:

(A) Measure the amount of coating or stripper as applied;

(B) Determine the VOC or HAP content of all coating and stripper applied using the test method specified in §63.750(c) (1) through (3) or (e) (1) and (2) of this section;

(C) Install, calibrate, maintain, and operate, according to the manufacturer's specifications, a device that indicates the amount of HAP or VOC recovered by the solvent recovery device over rolling 7- to 30-day periods; the device shall be certified by the manufacturer to be accurate to within ± 2.0 percent, and this certification shall be kept on record;

(D) Measure the amount of HAP or VOC recovered; and

(E) Calculate the overall HAP or VOC emission reduction (R) for rolling 7- to 30-day periods using equation 9.

(F) Compliance is demonstrated if the value of R is equal to or greater than the overall HAP control efficiencies required by §63.745(d), §63.746(c), or §63.747(d).

(2) To demonstrate initial compliance with §63.745(d), §63.746(c), or §63.747(d) when affected HAP emission points are controlled by an emission control device other than a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon adsorber vessel, each owner or operator of an affected source shall perform a gaseous emission test using the following procedures.

(i) Construct the overall HAP emission reduction system so that all volumetric flow rates and total HAP or VOC emissions can be accurately determined by the applicable test methods and procedures specified in §63.750(g) (9) through (14).

(ii) Determine capture efficiency from the HAP emission points by capturing, venting, and measuring all HAP emissions from the HAP emission points. During a performance test, the owner or operator of affected HAP emission points located in an area with other gaseous emission sources not affected by this subpart shall isolate the affected HAP emission points from all other gaseous emission points by one of the following methods:

(A) Build a temporary total enclosure around the affected HAP emission point(s); or

(B) Shut down all gaseous emission points not affected by this subpart and continue to exhaust fugitive emissions from the affected HAP emission points through any building ventilation system and other room exhausts such as drying ovens. All ventilation air must be vented through stacks suitable for testing.

(iii) Operate the emission control device with all affected HAP emission points connected and operating.

(iv) Determine the efficiency (E) of the control device using equation 10:

(v) Determine the efficiency (F) of the capture system using equation 11:

$$E = \frac{\sum_{i=1}^n Q_{di} C_{di} - \sum_{j=1}^p Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{di} C_{di}} \quad Eq. 10$$

$$F = \frac{\sum_{i=1}^n Q_{di} C_{di}}{\sum_{i=1}^n Q_{di} C_{di} + \sum_{k=1}^p Q_{jk} C_{jk}} \quad Eq. 11$$

(vi) For each HAP emission point subject to §63.745(d), §63.746(c), or §63.747(d), compliance is demonstrated if the product of (E) × (F) is equal to or greater than the overall HAP control efficiencies required under §63.745(d), §63.746(c), or §63.747(d).

(3) To demonstrate compliance with §63.745(d), §63.746(c), or §63.747(d) when affected HAP emission points are controlled by a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon

adsorber vessel, each owner or operator of an affected source shall perform a gaseous emission test using the following procedures:

- (i) Construct the overall HAP emission reduction system so that each volumetric flow rate and the total HAP emissions can be accurately determined by the applicable test methods and procedures specified in §63.750(g) (9) through (14);
- (ii) Assure that all HAP emissions from the affected HAP emission point(s) are segregated from gaseous emission points not affected by this subpart and that the emissions can be captured for measurement, as described in paragraphs (g)(2)(ii) (A) and (B) of this section;
- (iii) Operate the emission control device with all affected HAP emission points connected and operating;
- (iv) Determine the efficiency (H_v) of each individual carbon adsorber vessel (v) using equation 12:

$$H_v = \frac{Q_{gv} C_{gv} - Q_{kv} C_{kv}}{Q_{gv} C_{gv}} \quad Eq. 12$$

- (v) Determine the efficiency of the carbon adsorption system (H_{sys}) by computing the average efficiency of the individual carbon adsorber vessels as weighted by the volumetric flow rate (Q_{kv}) of each individual carbon adsorber vessel (v) using equation 13:

$$H_{sys} = \frac{\sum_{v=1}^q H_v Q_{kv}}{\sum_{v=1}^q Q_{kv}} \quad Eq. 13$$

- (vi) Determine the efficiency (F) of the capture system using equation 11.

(vii) For each HAP emission point subject to §63.745(d), §63.746(c), or §63.747(d), compliance is demonstrated if the product of (H_{sys}) × (F) is equal to or greater than the overall HAP control efficiency required by §63.745(d), §63.746(c), or §63.747(d).

(4) An alternative method of demonstrating compliance with §63.745(d), §63.746(c), or §63.747(d) is the installation of a total enclosure around the affected HAP emission point(s) and the ventilation of all HAP emissions from the total enclosure to a control device with the efficiency specified in paragraph (g)(4)(iii) of this section. If this method is selected, the compliance test methods described in paragraphs (g)(1), (g)(2), and (g)(3) of this section are not required. Instead, each owner or operator of an affected source shall:

(i) Demonstrate that a total enclosure is installed. An enclosure that meets the requirements in paragraphs (g)(4)(i) (A) through (D) of this section shall be considered a total enclosure. The owner or operator of an enclosure that does not meet these requirements may apply to the Administrator for approval of the enclosure as a total enclosure on a case-by-case basis. The enclosure shall be considered a total enclosure if it is demonstrated to the satisfaction of the Administrator that all HAP emissions from the affected HAP emission point(s) are contained and vented to the control device. The requirements for automatic approval are as follows:

(A) The total area of all natural draft openings shall not exceed 5% of the total surface area of the total enclosure's walls, floor, and ceiling;

(B) All sources of emissions within the enclosure shall be a minimum of four equivalent diameters away from each natural draft opening;

(C) The average inward face velocity (FV) across all natural draft openings shall be a minimum of 3,600 meters per hour as determined by the following procedures:

(1) All forced makeup air ducts and all exhaust ducts are constructed so that the volumetric flow rate in each can be accurately determined by the test methods and procedures specified in §63.750(g) (10) and (11); volumetric flow rates shall be calculated without the adjustment normally made for moisture content; and

(2) Determine FV by equation 14:

$$FV = \frac{\sum_{j=1}^n Q_{out j} - \sum_{i=1}^p Q_{in i}}{\sum_{k=1}^q A_k} \quad Eq. 14$$

(D) The air passing through all natural draft openings shall flow into the enclosure continuously. If FV is less than or equal to 9,000 meters per hour, the continuous inward flow of air shall be verified by continuous observation using smoke tubes, streamers, tracer gases, or other means approved by the Administrator over the period that the volumetric flow rate tests required to determine FV are carried out. If FV is greater than 9,000 meters per hour, the direction of airflow through the natural draft openings shall be presumed to be inward at all times without verification.

(ii) Determine the control device efficiency using equation 10 or equations 12 and 13, as applicable, and the test methods and procedures specified in §63.750(g) (9) through (14).

(iii) Compliance shall be achieved if the installation of a total enclosure is demonstrated and the value of E determined from equation 10 (or the value of H_{sys} determined from equations 12 and 13, as applicable) is equal to or greater than the overall HAP control efficiencies required under §63.745(d), §63.746(c), or §63.747(d).

(5) When nonregenerative carbon adsorbers are used to comply with §63.745(d), §63.746(c), or §63.747(d), the owner or operator may conduct a design evaluation to demonstrate initial compliance in lieu of following the compliance test procedures of paragraphs (g)(1), (2), (3), and (4) of this section. The design evaluation shall consider the vent stream composition, component concentrations, flow rate, relative humidity, and temperature, and shall establish the design exhaust vent stream organic compound concentration level, capacity of the carbon bed, type and working capacity of activated carbon used for the carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and the emission point operating schedule.

(6)(i) To demonstrate initial compliance with §63.745(d), §63.746(c), or §63.747(d) when hard piping or ductwork is used to direct VOC and HAP emissions from a VOC and HAP source to the control device, each owner or operator shall demonstrate upon inspection that the criteria of paragraph (g)(6)(i)(A) and paragraph (g)(6)(i) (B) or (C) of this section VR/FD are met.

(A) The equipment shall be vented to a control device.

(B) The control device efficiency (E or H_{sys} , as applicable) determined using equation 10 or equations 12 and 13, respectively, and the test methods and procedures specified in §63.750(g) (9) through (14), shall be equal to or greater than the overall HAP control efficiency required by §63.745(d), §63.746(c), or §63.747(d).

(C) When a nonregenerative carbon adsorber is used, the ductwork from the affected emission point(s) shall be vented to the control device and the carbon adsorber shall be demonstrated, through the procedures of §63.750(g) (1), (2), (3), (4), or (5), to meet the requirements of §63.745(d), §63.746(c), or §63.747(d).

(7) Startups and shutdowns are normal operation for this source category. Emissions from these activities are to be included when determining if the standards specified in §63.745(d), §63.746(c), or §63.747(d) are being attained.

(8) An owner or operator who uses compliance techniques other than those specified in this subpart shall submit a description of those compliance procedures, subject to the Administrator's approval, in accordance with §63.7(f) of subpart A.

(9) Either EPA Method 18 or EPA Method 25A of appendix A of part 60, as appropriate to the conditions at the site, shall be used to determine VOC and HAP concentration of air exhaust streams as required by §63.750(g) (1) through (6). The owner or operator shall submit notice of the intended test method to the Administrator for approval along with the notification of the performance test required under §63.7(b). Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. Except as indicated in paragraphs (g)(9) (i) and (ii) of this section, the test shall consist of three separate runs, each lasting a minimum of 30 minutes.

(i) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all the individual carbon adsorber vessels pursuant to paragraph (g) (2) or (4) of this section, the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all of the individual carbon adsorber vessels.

(ii) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon adsorber vessel pursuant to §63.750(g) (3) or (4), each carbon adsorber vessel shall be tested individually. The test for each carbon adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(10) EPA Method 1 or 1A of appendix A of part 60 is used for sample and velocity traverses.

(11) EPA Method 2, 2A, 2C, or 2D of appendix A of part 60 is used for velocity and volumetric flow rates.

(12) EPA Method 3 of appendix A of part 60 is used for gas analysis.

(13) EPA Method 4 of appendix A of part 60 is used for stack gas moisture.

(14) EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test period.

(h) *Overall VOC and/or organic HAP control efficiency—control devices other than carbon adsorbers.*
Calculate the overall control efficiency of a control system with a control device other than a carbon adsorber using the following procedure.

(1) Calculate the overall control efficiency using equation 15:

$$E_k = R_k F_k \quad \text{Eq. 15}$$

where:

E_k =overall VOC and/or organic HAP control efficiency (expressed as a decimal) of control system k.

R_k =destruction or removal efficiency (expressed as a decimal) of total organic compounds or total organic HAP for control device k as determined under paragraph (h)(2) of this section.

F_k =capture efficiency (expressed as a decimal) of capture system k as determined under paragraph (h)(3) of this section.

(2) The organic HAP destruction or removal efficiency R_k of a control device other than a carbon adsorber shall be determined using the procedures described below. The destruction efficiency may be measured as either total organic HAP or as TOC minus methane and ethane according to these procedures.

(i) Use Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, to select the sampling sites.

(ii) Determine the gas volumetric flow rate using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(iii) Use Method 18 of 40 CFR part 60, appendix A, to measure either TOC minus methane and ethane or total organic HAP. Alternatively, any other method or data that have been validated according to the applicable procedures in Method 301 of this part may be used.

(iv) Use the following procedure to calculate the destruction or removal efficiency:

(A) The destruction or removal efficiency test shall consist of three runs. The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, the samples shall be taken at approximately equal intervals in time such as 15-minute intervals during the run.

(B) Calculate the mass rate of either TOC (minus methane and ethane) or total organic HAP (E_i , E_o) using equations 16 and 17:

$$E_i = K_2 \left(\sum_{j=1}^n C_{ij} M_j \right) Q_i \quad Eq. 16$$

$$E_o = K_2 \left(\sum_{j=1}^n C_{oj} M_j \right) Q_o \quad Eq. 17$$

where:

E_i , E_o =mass rate of TOC (minus methane and ethane) or total organic HAP at the inlet and outlet of the control device, respectively, dry basis, kg/hr.

K_2 =constant, 2.494×10^{-6} (parts per million)⁻¹ (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature for (gram-mole per standard cubic meter) is 20 °C.

n =number of sample components in the gas stream.

C_{ij} , C_{oj} =concentration of sample component j of the gas stream at the inlet and outlet of the control device, respectively, dry basis, parts per million by volume.

M_{ij} , M_{oj} =molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole.

Q_i , Q_o =flow rate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.

(1) Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by EPA Method 18 shall be summed using equation 16 in paragraph (h)(2)(iv)(B) of this section.

(2) Where the mass rate of total organic HAP is being calculated, only the organic HAP species shall be summed using equation 17 in paragraph (h)(2)(iv)(B) of this section. The list of organic HAP is provided in §63.104 of subpart F of this part.

(C) Calculate the destruction or removal efficiency for TOC (minus methane and ethane) or total organic HAP using equation 18:

$$R = \frac{E_i - E_o}{E_i} \times 100 \quad Eq. 18$$

where:

R=destruction or removal efficiency of control device, percent.

E_i =mass rate of TOC (minus methane and ethane) or total organic HAP at the inlet to the control device as calculated under paragraph (h)(2)(iv)(B) of this section, kg TOC per hour or kg organic HAP per hour.

E_o =mass rate of TOC (minus methane and ethane) or total organic HAP at the outlet of the control device, as calculated under paragraph (h)(2)(iv)(B) of this section, kg TOC per hour or kg organic HAP per hour.

(3) Determine the capture efficiency F_k of each capture system to which organic HAP and VOC emissions from coating operations are vented. The capture efficiency value shall be determined using Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure as found in appendix B to §52.741 of part 52 of this chapter for total enclosures, and the capture efficiency protocol specified in §52.741(a)(4)(iii) of part 52 of this chapter for all other enclosures.

(i)(1) *Alternative application method—primers and topcoats.* Each owner or operator seeking to use an alternative application method (as allowed in §63.745(f)(1)(ix)) in complying with the standards for primers and topcoats shall use the procedures specified in paragraphs (i)(2)(i) and (i)(2)(ii) or (i)(2)(iii) of this section to determine the organic HAP and VOC emission levels of the alternative application technique as compared to either HVLP or electrostatic spray application methods.

(2)(i) For the process or processes for which the alternative application method is to be used, the total organic HAP and VOC emissions shall be determined for an initial 30-day period, the period of time required to apply coating to five completely assembled aircraft, or a time period approved by the permitting agency. During this initial period, only HVLP or electrostatic spray application methods shall be used. The emissions shall be determined based on the volumes, organic HAP contents (less water), and VOC contents (less water and exempt solvents) of the coatings as applied.

(ii) Upon implementation of the alternative application method, use the alternative application method in production on actual production parts or assemblies for a period of time sufficient to coat an equivalent

amount of parts and assemblies with coatings identical to those used in the initial 30-day period. The actual organic HAP and VOC emissions shall be calculated for this post-implementation period.

(iii) Test the proposed application method against either HVLP or electrostatic spray application methods in a laboratory or pilot production area, using parts and coatings representative of the process(es) where the alternative method is to be used. The laboratory test will use the same part configuration(s) and the same number of parts for both the proposed method and the HVLP or electrostatic spray application methods.

(iv) Whenever the approach in either paragraph (i)(2)(ii) or (i)(2)(iii) of this section is used, the owner or operator shall calculate both the organic HAP and VOC emission reduction using equation:

$$P = \frac{E_b - E_a}{E_b} \times 100 \quad Eq. 19$$

where:

P=organic HAP or VOC emission reduction, percent.

E_b=organic HAP or VOC emissions, in pounds, before the alternative application technique was implemented, as determined under paragraph (i)(2)(i) of this section.

E_a=organic HAP or VOC emissions, in pounds, after the alternative application technique was implemented, as determined under paragraph (i)(2)(ii) of this section.

(3) Each owner or operator seeking to demonstrate that an alternative application method achieves emission reductions equivalent to HVLP or electrostatic spray application methods shall comply with the following:

(i) Each coating shall be applied such that the dried film thickness is within the range specified by the applicable specification(s) for the aerospace vehicle or component being coated.

(ii) If no such dried film thickness specification(s) exists, the owner or operator shall ensure that the dried film thickness applied during the initial 30-day period is equivalent to the dried film thickness applied during the alternative application method test period for similar aerospace vehicles or components.

(iii) Failure to comply with these dried film thickness requirements shall invalidate the test results obtained under paragraph (i)(2)(i) of this section.

(j) *Spot stripping and decal removal.* Each owner or operator seeking to comply with §63.746(b)(3) shall determine the volume of organic HAP-containing chemical strippers or alternatively the weight of organic HAP used per aircraft using the procedure specified in paragraphs (j)(1) through (j)(3) of this section.

(1) For each chemical stripper used for spot stripping and decal removal, determine for each annual period the total volume as applied or the total weight of organic HAP using the procedure specified in paragraph (d)(2) of this section.

(2) Determine the total number of aircraft for which depainting operations began during the annual period as determined from company records.

(3) Calculate the annual average volume of organic HAP-containing chemical stripper or weight of organic HAP used for spot stripping and decal removal per aircraft using equation 20 (volume) or equation 21 (weight):

$$C = \frac{\sum_{i=1}^n V_{si}}{A} \quad \text{Eq. 20}$$

where:

C=annual average volume (gal per aircraft) of organic HAP-containing chemical stripper used for spot stripping and decal removal.

n=number of organic HAP-containing chemical strippers used in the annual period.

V_{si}=volume (gal) of organic HAP-containing chemical stripper (i) used during the annual period.

A=number of aircraft for which depainting operations began during the annual period.

$$C = \frac{\sum_{i=1}^n \left(V_{si} D_{hi} \left(\sum_{k=1}^m W_{ki} \right) \right)}{A} \quad \text{Eq. 21}$$

where:

C = annual average weight (lb per aircraft) of organic HAP (chemical stripper) used for spot stripping and decal removal.

m = number of organic HAP contained in each chemical stripper, as applied.

n = number of organic HAP-containing chemical strippers used in the annual period.

W_{hi}= weight fraction (expressed as a decimal) of each organic HAP (i) contained in the chemical stripper, as applied, for each aircraft depainted.

D_{hi}= density (lb/gal) of each organic HAP-containing chemical stripper (i), used in the annual period.

V_{si}= volume (gal) of organic HAP-containing chemical stripper (i) used during the annual period.

A = number of aircraft for which depainting operations began during the annual period.

(k) *Organic HAP content level determination—compliant chemical milling maskants.* For those uncontrolled chemical milling maskants complying with the chemical milling maskant organic HAP content limit specified in §63.747(c)(1) without being averaged, the following procedures shall be used to determine the mass of organic HAP emitted per unit volume of coating (chemical milling maskant) i as applied (less water), H_i(lb/gal).

(1) For coatings that contain no exempt solvents, determine the total organic HAP content using manufacturer's supplied data or Method 24 of 40 CFR part 60, appendix A to determine the VOC content. The VOC content shall be used as a surrogate for total HAP content for coatings that contain no exempt solvent. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 24 analysis, compliance shall be based on the results from the Method 24 analysis.

When Method 24 is used to determine the VOC content of water-reducible coatings, the precision adjustment factors in Reference Method 24 shall be used. If the adjusted analytical VOC content is less than the formulation solvent content, then the analytical VOC content should be set equal to the formulation solvent content.

(2) [Reserved]

(l) *Organic HAP content level determination—averaged chemical milling maskants.* For those uncontrolled chemical milling maskants that are averaged together in order to comply with the chemical milling maskant organic HAP content level specified in §63.747(c)(1), the procedure specified in paragraphs (l)(1) through (l)(4) of this section shall be used to determine the monthly volume-weighted average mass of organic HAP emitted per volume of chemical milling maskant (less water) as applied, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(1) Determine the total organic HAP weight fraction as applied of each chemical milling maskant used during each 30-day period using the procedure specified in paragraph (d)(1) of this section.

(2) Determine for each 30-day period:

(i) The individual volume of each chemical milling maskant applied in terms of total gallons (less water) (using the procedure specified in paragraph (d)(2) of this section), and

(ii) The total volume in gallons of all chemical milling maskants (less water) as applied by summing the individual volumes of each chemical milling maskant as applied (less water).

(3) Determine the density of each chemical milling maskant as applied used during each 30-day period using the procedure specified in paragraph (d)(3) of this section.

(4) Calculate the volume-weighted average mass of organic HAP emitted per unit volume (lb/gal) of chemical milling maskant (less water) as applied for all chemical milling maskants during each 30-day period using equation 22:

$$H_a = \frac{\sum_{i=1}^n W_{Hi} D_{mi} V_{mi}}{M_w} \quad \text{Eq. 22}$$

where:

H_a =volume-weighted mass of organic HAP emitted per unit volume of chemical milling maskants (lb/gal) (less water) as applied during each 30-day period for those chemical milling maskants being averaged.

n =number of chemical milling maskants being averaged.

W_{Hi} =weight fraction (expressed as a decimal) of organic HAP in chemical milling maskant i (less water) as applied during each 30-day period that is averaged.

D_{mi} =density (lb chemical milling maskant per gal coating) of chemical milling maskant i as applied during each 30-day period that is averaged.

V_{mi} =volume (gal) of chemical milling maskant i (less water) as applied during the 30-day period that is averaged.

M_{lw} =total volume (gal) of all chemical milling maskants (less water) as applied during each 30-day period that is averaged.

(m) *VOC content level determination—compliant chemical milling maskants.* For those uncontrolled chemical milling maskants complying with the chemical milling maskant VOC content limit specified in §63.747(c)(2) without being averaged, the procedure specified in paragraphs (m)(1) and (m)(2) of this section shall be used to determine the mass of VOC emitted per volume of chemical milling maskant (less water and exempt solvents) as applied.

(1) Determine the mass of VOC emitted per unit volume of chemical milling maskant (lb/gal) (less water and exempt solvents) as applied, G_i , for each chemical milling maskant using the procedures specified in paragraphs (e)(1) and (e)(2) of this section.

(2)(i) If the VOC content is found to be different when EPA Method 24 is used during an enforcement inspection from that used by the owner or operator in calculating G_i , compliance shall be based, except as provided in paragraph (m)(2)(ii) of this section, upon the VOC content obtained using EPA Method 24.

(ii) If the VOC content of a chemical milling maskant obtained using EPA Method 24 would indicate noncompliance as determined under §63.749(h)(3)(i), an owner or operator may elect to average the chemical milling maskant with other uncontrolled chemical milling maskants and (re)calculate G_a (using the procedure specified in paragraph (n) of this section), provided appropriate and sufficient records were maintained for all chemical milling maskants included in the average recalculation. The (re)calculated value of G_a for the averaged chemical milling maskants shall then be used to determine compliance.

(n) *VOC content level determination—averaged chemical milling maskants.* For those uncontrolled chemical milling maskants that are averaged together in order to comply with the chemical milling maskant VOC content limit specified in §63.747(c)(2), the procedure specified in paragraphs (n)(1) through (n)(4) of this section shall be used to determine the monthly volume-weighted average mass of VOC emitted per volume of chemical milling maskant (less water and exempt solvents) as applied, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(1) Determine the VOC content of each chemical milling maskant (less water and exempt solvents) as applied used during each 30-day period using the procedure specified in paragraph (f)(1) of this section.

(2)(i) Determine the individual volume of each chemical milling maskant applied in terms of total gallons (less water and exempt solvents) using the procedure specified in paragraph (f)(2) of this section, and

(ii) Calculate the total volume in gallons of all chemical milling maskants (less water and exempt solvents) as applied by summing the individual volumes of each chemical milling maskant (less water and exempt solvents) as applied.

(3) Calculate the volume-weighted average mass of VOC emitted per unit volume (lb/gal) of chemical milling maskant (less water and exempt solvents) as applied during each 30-day period using equation 23:

$$G_a = \frac{\sum_{i=1}^n (VOC)_{mi} V_{mi}}{M_{lves}} \quad \text{Eq. 23}$$

where:

G_a =volume-weighted average mass of VOC per unit volume of chemical milling maskant (lb/gal) (less water and exempt solvents) as applied during each 30-day period for those chemical milling maskants that are averaged.

n =number of chemical milling maskants being averaged.

$(VOC)_{mi}$ =VOC content (lb/gal) of chemical milling maskant i (less water and exempt solvents) as applied during the 30-day period that is averaged.

V_{mi} =volume (gal) of chemical milling maskant i (less water and exempt solvents) as applied during the 30-day period that is averaged.

M_{wes} =total volume (gal) of all chemical milling maskants (less water and exempt solvents) as applied during each 30-day period that is averaged.

(4)(i) If the VOC content is found to be different when EPA Method 24 is used during an enforcement inspection from that used by the owner or operator in calculating G_a , recalculation of G_a is required using the new value. If more than one chemical milling maskant is involved, the recalculation shall be made once using all of the new values.

(ii) If recalculation is required, an owner or operator may elect to include in the recalculation of G_a uncontrolled chemical milling maskants that were not previously included provided appropriate and sufficient records were maintained for these other chemical milling maskants to allow daily recalculations.

(iii) The recalculated value of G_a under either paragraph (n)(4)(i) or (n)(4)(ii) of this section shall be used to determine compliance.

(o) *Inorganic HAP emissions—dry particulate filter certification requirements.* Dry particulate filters used to comply with §63.745(g)(2) or §63.746(b)(4) must be certified by the filter manufacturer or distributor, paint/depainting booth supplier, and/or the facility owner or operator using method 319 in appendix A of subpart A of this part, to meet or exceed the efficiency data points found in Tables 1 and 2, or 3 and 4 of §63.745 for existing or new sources respectively.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15021, Mar. 27, 1998; 63 FR 46534, Sept. 1, 1998; 65 FR 62215, Oct. 17, 2000]

§ 63.751 Monitoring requirements.

(a) *Enclosed spray gun cleaners.* Each owner or operator using an enclosed spray gun cleaner under §63.744(c)(1) shall visually inspect the seals and all other potential sources of leaks associated with each enclosed gun spray cleaner system at least once per month. Each inspection shall occur while the system is in operation.

(b) *Incinerators and carbon adsorbers—initial compliance demonstrations.* Each owner or operator subject to the requirements in this subpart must demonstrate initial compliance with the requirements of §§63.745(d), 63.746(c), and 63.747(d) of this subpart. Each owner or operator using a carbon adsorber to comply with the requirements in this subpart shall comply with the requirements specified in paragraphs (b)(1) through (7) of this section. Each owner or operator using an incinerator to comply with the requirements in this subpart shall comply with the requirements specified in paragraphs (b)(8) through (12) of this section.

(1) Except as allowed by paragraph (b)(2) or (b)(5) of this section, for each control device used to control organic HAP or VOC emissions, the owner or operator shall fulfill the requirements of paragraph (b)(1) (i) or (ii) of this section.

(i) The owner or operator shall establish as a site-specific operating parameter the outlet total HAP or VOC concentration that demonstrates compliance with §63.745(d), §63.746(c), or §63.747(d) as appropriate; or

(ii) The owner or operator shall establish as the site-specific operating parameter the control device efficiency that demonstrates compliance with §63.745(d), §63.746(c), or §63.747(d).

(iii) When a nonregenerative carbon adsorber is used to comply with §63.745(d), §63.746(c), or §63.747(d), the site-specific operating parameter value may be established as part of the design evaluation used to demonstrate initial compliance. Otherwise, the site-specific operating parameter value shall be established during the initial performance test conducted according to the procedures of §63.750(g).

(2) For each nonregenerative carbon adsorber, in lieu of meeting the requirements of §63.751(b)(1), the owner or operator may establish as the site-specific operating parameter the carbon replacement time interval, as determined by the maximum design flow rate and organic concentration in the gas stream vented to the carbon adsorption system. The carbon replacement time interval shall be established either as part of the design evaluation to demonstrate initial compliance or during the initial performance test conducted according to the procedures in §63.750(g) (1), (2), (3), or (4).

(3) Each owner or operator venting solvent HAP emissions from a source through a room, enclosure, or hood, to a control device to comply with §63.745(d), §63.746(c), or §63.747(d) shall:

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

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

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

(C) Identifies the specific monitoring procedures;

(ii) Set the operating parameter value, or range of values, that demonstrate compliance with §63.745(d), §63.746(c), or §63.747(d), as appropriate; and

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

(4) Owners or operators subject to §63.751(b) (1), (2), or (3) shall calculate the site-specific operating parameter value, or range of values, as the arithmetic average of the maximum and/or minimum operating parameter values, as appropriate, that demonstrate compliance with §63.745(d), §63.746(c), or §63.747(d) during the multiple test runs required by §63.750 (g)(2) and (g)(1).

(5) For each solvent recovery device used to comply with §63.745(d), §63.746(c), or §63.747(d), in lieu of meeting the requirements of paragraph (b)(1) of this section, the results of the material balance calculation conducted in accordance with §63.750(g)(1) may serve as the site-specific operating parameter that demonstrates compliance with §63.745(d), §63.746(c), or §63.747(d).

(6) *Continuous compliance monitoring.* Following the date on which the initial compliance demonstration is completed, continuous compliance with §63.745(d), §63.746(c), or §63.747(d) of this subpart shall be demonstrated as outlined in this paragraph.

(i) Each owner or operator of an affected source subject to §63.745(d), §63.746(c), or §63.747(d) of this subpart shall monitor the applicable parameters specified in paragraph (b)(6)(ii), (b)(6)(iii), or (b)(6)(iv) of this section depending on the type of control technique used.

(ii) Compliance monitoring shall be subject to the following provisions:

(A) Except as allowed by paragraph (b)(6)(iii)(A)(2) of this section, all continuous emission monitors shall comply with performance specification (PS) 8 or 9 in 40 CFR part 60, appendix B, as appropriate depending on whether VOC or HAP concentration is being measured. The requirements in appendix F of 40 CFR part 60 shall also be followed. In conducting the quarterly audits required by appendix F, owners or operators shall challenge the monitors with compounds representative of the gaseous emission stream being controlled.

(B) If the effluent from multiple emission points are combined prior to being channeled to a common control device, the owner or operator is required only to monitor the common control device, not each emission point.

(iii) Owners or operators complying with §63.745(d), §63.746(c), or §63.747(d) through the use of a control device and establishing a site-specific operating parameter in accordance with paragraph (b)(1) of this section shall fulfill the requirements of paragraph (b)(6)(iii)(A) of this section and paragraph (b)(6)(iii)(B) or (C) of this section, as appropriate.

(A) The owner or operator shall install, calibrate, operate, and maintain a continuous emission monitor.

(1) The continuous emission monitor shall be used to measure continuously the total HAP or VOC concentration at both the inlet and the outlet whenever HAP from coating and paint stripping operations are vented to the control device, or when continuous compliance is demonstrated through a percent efficiency calculation; or

(2) For owners or operators using a nonregenerative carbon adsorber, in lieu of using continuous emission monitors as specified in paragraph (b)(6)(iii)(A)(1) of this section, the owner or operator may use a portable monitoring device to monitor total HAP or VOC concentration at the inlet and outlet or the outlet of the carbon adsorber as appropriate.

(a) The monitoring device shall be calibrated, operated, and maintained in accordance with the manufacturer's specifications.

(b) The monitoring device shall meet the requirements of part 60, appendix A, Method 21, sections 2, 3, 4.1, 4.2, and 4.4. The calibration gas shall either be representative of the compounds to be measured or shall be methane, and shall be at a concentration associated with 125% of the expected organic compound concentration level for the carbon adsorber outlet vent.

(c) The probe inlet of the monitoring device shall be placed at approximately the center of the carbon adsorber outlet vent. The probe shall be held there for at least 5 minutes during which flow into the carbon adsorber is expected to occur. The maximum reading during that period shall be used as the measurement.

(B) If complying with §63.745(d), §63.746(c), or §63.747(d) through the use of a carbon adsorption system with a common exhaust stack for all of the carbon vessels, the owner or operator shall not operate the control device at an average control efficiency less than that required by §63.745(d), §63.746(c), or §63.747(d) for three consecutive adsorption cycles.

(C) If complying with §63.745(d), §63.746(c), or §63.747(d) through the use of a carbon adsorption system with individual exhaust stacks for each of the multiple carbon adsorber vessels, the owner or operator shall not operate any carbon adsorber vessel at an average control efficiency less than that required by §63.745(d), §63.746(c), or §63.747(d) as calculated daily using a 7 to 30-day rolling average.

(D) If complying with §63.745(d), §63.746(c), or §63.747(d) through the use of a nonregenerative carbon adsorber, in lieu of the requirements of paragraph (b)(6)(iii) (B) or (C) of this section, the owner or operator may monitor the VOC or HAP concentration of the adsorber exhaust daily, at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater, or at a frequency as determined by the owner or operator and approved by the Administrator.

(iv) Owners or operators complying with §63.745(d), §63.746(c), or §63.747(d) through the use of a nonregenerative carbon adsorber and establishing a site-specific operating parameter for the carbon replacement time interval in accordance with paragraph (b)(2) shall replace the carbon in the carbon adsorber system with fresh carbon at the predetermined time interval as determined in the design evaluation.

(v) Owners or operators complying with §63.745(d), §63.746(c), or §63.747(d) by capturing emissions through a room, enclosure, or hood shall install, calibrate, operate, and maintain the instrumentation necessary to measure continuously the site-specific operating parameter established in accordance with paragraph (b)(3) of this section whenever VOC and HAP from coating and stripper operations are vented through the capture device. The capture device shall not be operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with paragraph (b)(3) of this section for any 3-hour period.

(7) Owners or operators complying with paragraph (b)(4) or (b)(5) of this section shall calculate the site-specific operating parameter value as the arithmetic average of the minimum operating parameter values that demonstrate compliance with §63.745(d) and §63.747(d) during the three test runs required by §63.750(h)(2)(iv).

(8) All temperature monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturer's specifications. Every 3 months, facilities shall replace the temperature sensors or have the temperature sensors recalibrated. As an alternative, a facility may use a continuous emission monitoring system (CEMS) to verify that there has been no change in the destruction efficiency and effluent composition of the incinerator.

(9) Where an incinerator other than a catalytic incinerator is used, a thermocouple equipped with a continuous recorder shall be installed and continuously operated in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.

(10) Where a catalytic incinerator is used, thermocouples, each equipped with a continuous recorder, shall be installed and continuously operated in the gas stream immediately before and after the catalyst bed.

(11) For each incinerator other than a catalytic incinerator, each owner or operator shall establish during each performance test during which compliance is demonstrated, including the initial performance test, the minimum combustion temperature as a site-specific operating parameter. This minimum combustion temperature shall be the operating parameter value that demonstrates compliance with §63.745(d) and §63.747(d).

(12) For each catalytic incinerator, each owner or operator shall establish during each performance test during which compliance is demonstrated, including the initial performance test, the minimum gas temperature upstream of the catalyst bed and the minimum gas temperature difference across the catalyst bed as site-specific operating parameters. These minimum temperatures shall be the operating parameter values that demonstrate compliance with §63.745(d) and §63.747(d).

(c) *Dry particulate filter, HEPA filter, and waterwash systems—primer and topcoat application operations.* (1) Each owner or operator using a dry particulate filter system to meet the requirements of §63.745(g)(2) shall, while primer or topcoat application operations are occurring, continuously monitor the pressure drop across the system and read and record the pressure drop once per shift following the recordkeeping requirements of §63.752(d).

(2) Each owner or operator using a conventional waterwash system to meet the requirements of §63.745(g)(2) shall, while primer or topcoat application operations are occurring, continuously monitor the water flow rate through the system and read and record the water flow rate once per shift following the recordkeeping requirements of §63.752(d). Each owner or operator using a pumpless waterwash system to meet the requirements of §63.745(g)(2) shall, while primer and topcoat application operations are occurring, measure and record the parameter(s) recommended by the booth manufacturer that indicate booth performance once per shift, following the recordkeeping requirements of §63.752(d).

(d) *Particulate filters and waterwash booths—depainting operations.* Each owner or operator using a dry particulate filter or a conventional waterwash system in accordance with the requirements of §63.746(b)(4) shall, while depainting operations are occurring, continuously monitor the pressure drop across the particulate filters or the water flow rate through the conventional waterwash system and read and record the pressure drop or the water flow rate once per shift following the recordkeeping requirements of §63.752(e). Each owner or operator using a pumpless waterwash system to meet the requirements of §63.746(b)(4) shall, while depainting operations are occurring, measure and record the parameter(s) recommended by the booth manufacturer that indicate booth performance once per shift, following the recordkeeping requirements of §63.752(e).

(e) *Use of an alternative monitoring method*—(1) *General.* Until permission to use an alternative monitoring method has been granted by the Administrator under this paragraph, the owner or operator of an affected source shall remain subject to the requirements of this section.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this section including, but not limited to, the following:

(i) Alternative monitoring requirements when the affected source is infrequently operated; or

(ii) Alternative locations for installing continuous monitoring systems when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements; or

(iii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified in this section.

(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. If the results of the specified and the 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 method.* An owner or operator who wishes to use an alternative monitoring method shall submit an application to the Administrator as described in paragraph (e)(4)(ii) of this section. The application may be submitted at any time provided that the monitoring method is not used to demonstrate compliance with a relevant standard or other requirement. If the alternative monitoring method is to be used to demonstrate compliance with a relevant standard, the application shall be submitted not later than with the site-specific test plan required in §63.7(c) (if requested) or with the site-specific performance evaluation plan (if requested), or at least 60 days before the performance evaluation is scheduled to begin.

(ii) The application shall contain a description of the proposed alternative monitoring system and information justifying the owner's 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 (e)(4)(i) of this section to ensure a timely review by the Administrator in order to meet the compliance demonstration date specified in this subpart.

(5) *Approval of request to use alternative monitoring method.* (i) The Administrator will notify the owner or operator of his/her intention to deny approval of the request to use an alternative monitoring method within 60 calendar days after receipt of the original request and within 60 calendar days after receipt of any supplementary information that is submitted. If notification of intent to deny approval is not received within 60 calendar days, the alternative monitoring method is to be considered approved. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intent 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) If the Administrator approves the use of an alternative monitoring method for an affected source under paragraph (e)(5)(i) of this section, the owner or operator of such source shall continue to use the alternative monitoring method until approval is received from the Administrator to use another monitoring method as allowed by paragraph (e) of this section.

(f) *Reduction of monitoring data.* (1) The data may be recorded in reduced or nonreduced form (e.g., parts per million (ppm) pollutant and % O₂ or nanograms per Joule (ng/J) of pollutant).

(2) All emission data shall be converted into units specified in this subpart for reporting purposes. After conversion into units specified in this subpart, the data may be rounded to the same number of significant digits as used in this subpart to specify the emission limit (e.g., rounded to the nearest 1% overall reduction efficiency).

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15023, Mar. 27, 1998; 63 FR 46534, Sept. 1, 1998; 65 FR 76945, Dec. 8, 2000]

§ 63.752 Recordkeeping requirements.

(a) *General.* Each owner or operator of a source subject to this subpart shall fulfill all recordkeeping requirements specified in §63.10 (a), (b), (d), and (f).

(b) *Cleaning operation.* Each owner or operator of a new or existing cleaning operation subject to this subpart shall record the information specified in paragraphs (b)(1) through (b)(5) of this section, as appropriate.

(1) The name, vapor pressure, and documentation showing the organic HAP constituents of each cleaning solvent used for affected cleaning operations at the facility.

(2) For each cleaning solvent used in hand-wipe cleaning operations that complies with the composition requirements specified in §63.744(b)(1) or for semi-aqueous cleaning solvents used for flush cleaning operations:

(i) The name of each cleaning solvent used;

(ii) All data and calculations that demonstrate that the cleaning solvent complies with one of the composition requirements; and

(iii) Annual records of the volume of each solvent used, as determined from facility purchase records or usage records.

(3) For each cleaning solvent used in hand-wipe cleaning operations that does not comply with the composition requirements in §63.744(b)(1), but does comply with the vapor pressure requirement in §63.744(b)(2):

(i) The name of each cleaning solvent used;

(ii) The composite vapor pressure of each cleaning solvent used;

(iii) All vapor pressure test results, if appropriate, data, and calculations used to determine the composite vapor pressure of each cleaning solvent; and

(iv) The amount (in gallons) of each cleaning solvent used each month at each operation.

(4) For each cleaning solvent used for the exempt hand-wipe cleaning operations specified in §63.744(e) that does not conform to the vapor pressure or composition requirements of §63.744(b):

(i) The identity and amount (in gallons) of each cleaning solvent used each month at each operation; and

(ii) A list of the processes set forth in §63.744(e) to which the cleaning operation applies.

(5) A record of all leaks from enclosed spray gun cleaners identified pursuant to §63.751(a) that includes for each leak found:

(i) Source identification;

(ii) Date leak was discovered; and

(iii) Date leak was repaired.

(c) *Primer and topcoat application operations—organic HAP and VOC.* Each owner or operator required to comply with the organic HAP and VOC content limits specified in §63.745(c) shall record the information specified in paragraphs (c)(1) through (c)(6) of this section, as appropriate.

(1) The name and VOC content as received and as applied of each primer and topcoat used at the facility.

(2) For uncontrolled primers and topcoats that meet the organic HAP and VOC content limits in §63.745(c)(1) through (c)(4) without averaging:

(i) The mass of organic HAP emitted per unit volume of coating as applied (less water) (H_i) and the mass of VOC emitted per unit volume of coating as applied (less water and exempt solvents) (G_i) for each coating formulation within each coating category used each month (as calculated using the procedures specified in §63.750(c) and (e));

(ii) All data, calculations, and test results (including EPA Method 24 results) used in determining the values of H_i and G_i ; and

(iii) The volume (gal) of each coating formulation within each coating category used each month.

(3) For “low HAP content” uncontrolled primers with organic HAP content less than or equal to 250 g/l (2.1 lb/gal) less water as applied and VOC content less than or equal to 250 g/l (2.1 lb/gal) less water and exempt solvents as applied:

(i) Annual purchase records of the total volume of each primer purchased; and

(ii) All data, calculations, and test results (including EPA Method 24 results) used in determining the organic HAP and VOC content as applied. These records shall consist of the manufacturer's certification when the primer is applied as received, or the data and calculations used to determine H_i if not applied as received.

(4) For primers and topcoats complying with the organic HAP or VOC content level by averaging:

(i) The monthly volume-weighted average masses of organic HAP emitted per unit volume of coating as applied (less water) (H_a) and of VOC emitted per unit volume of coating as applied (less water and exempt solvents) (G_a) for all coatings (as determined by the procedures specified in §63.750(d) and (f)); and

(ii) All data, calculations, and test results (including EPA Method 24 results) used to determine the values of H_a and G_a .

(5) For primers and topcoats that are controlled by a control device other than a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(h)) and all test results, data, and calculations used in determining the overall control efficiency;

(ii) If an incinerator other than a catalytic incinerator is used, continuous records of the firebox temperature recorded under §63.751(b)(9) and all calculated 3-hour averages of the firebox temperature; and

(iii) If a catalytic incinerator is used, continuous records of the temperature recorded under §63.751(b)(10) and all calculated 3-hour averages of the recorded temperatures.

(6) For primer and topcoats that are controlled by a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The length of the rolling material balance period and all data and calculations used for determining this rolling period. The record of the certification of the accuracy of the device that measures the amount of HAP or VOC recovered; or

(ii) For nonregenerative carbon adsorbers, the overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The record of the carbon replacement time established as the site-specific operating parameter to demonstrate compliance.

(d) *Primer and topcoat application operations—inorganic HAP emissions.* (1) Each owner or operator complying with §63.745(g) for the control of inorganic HAP emissions from primer and topcoat application operations through the use of a dry particulate filter system or a HEPA filter system shall record the pressure drop across the operating system once each shift during which coating operations occur.

(2) Each owner or operator complying with §63.745(g) through the use of a conventional waterwash system shall record the water flow rate through the operating system once each shift during which coating operations occur. Each owner or operator complying with §63.745(g) through the use of a pumpless waterwash system shall record the parameter(s) recommended by the booth manufacturer that indicate the performance of the booth once each shift during which coating operations occur.

(3) This log shall include the acceptable limit(s) of pressure drop, water flow rate, or for the pumpless waterwash booth, the booth manufacturer recommended parameter(s) that indicate the booth performance, as applicable, as specified by the filter or booth manufacturer or in locally prepared operating procedures.

(e) *Depainting operations.* Each owner or operator subject to the depainting standards specified in §63.746 shall record the information specified in paragraphs (e)(1) through (e)(7) of this section, as appropriate.

(1) *General.* For all chemical strippers used in the depainting operation:

(i) The name of each chemical stripper; and

(ii) Monthly volumes of each organic HAP containing chemical stripper used or monthly weight of organic HAP-material used for spot stripping and decal removal.

(2) For HAP-containing chemical strippers that are controlled by a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The length of the rolling material balance period and all data and calculations used for determining this rolling period. The record of the certification of the accuracy of the device that measures the amount of HAP or VOC recovered; or

(ii) For nonregenerative carbon adsorbers, the overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The record of the carbon replacement time established as the site-specific operating parameter to demonstrate compliance.

(3) For HAP-containing chemical strippers that are controlled by a control device other than a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(h)) and all test results, data, and calculations used in determining the overall control efficiency;

(ii) [Reserved]

(4) For each type of aircraft depainted at the facility, a listing of the parts, subassemblies, and assemblies normally removed from the aircraft before depainting. Prototype, test model or aircraft that exist in low numbers (i.e., less than 25 aircraft of any one type) are exempt from this requirement.

(5) *Non-chemical based equipment.* If dry media blasting equipment is used to comply with the organic HAP emission limit specified in §63.746(b)(1):

(i) The names and types of non-chemical based equipment; and

(ii) For periods of malfunction,

(A) The non-chemical method or technique that malfunctioned;

(B) The date that the malfunction occurred;

(C) A description of the malfunction;

(D) The methods used to repaint aerospace vehicles during the malfunction period;

(E) The dates that these methods were begun and discontinued; and

(F) The date that the malfunction was corrected.

(6) *Spot stripping and decal removal.* For spot stripping and decal removal, the volume of organic HAP-containing chemical stripper or weight of organic HAP used, the annual average volume of organic HAP-containing chemical stripper or weight of organic HAP used per aircraft, the annual number of aircraft stripped, and all data and calculations used.

(7) *Inorganic HAP emissions.* Each owner or operator shall record the actual pressure drop across the particulate filters or the visual continuity of the water curtain and water flow rate for conventional waterwash systems once each shift in which the depainting process is in operation. For pumpless waterwash systems, the owner or operator shall record the parameter(s) recommended by the booth manufacturer that indicate the performance of the booth once per shift in which the depainting process is in operation. This log shall

include the acceptable limit(s) of the pressure drop as specified by the filter manufacturer, the visual continuity of the water curtain and the water flow rate for conventional waterwash systems, or the recommended parameter(s) that indicate the booth performance for pumpless systems as specified by the booth manufacturer or in locally prepared operating procedures.

(f) *Chemical milling maskant application operations.* Each owner or operator seeking to comply with the organic HAP and VOC content limits for the chemical milling maskant application operation, as specified in §63.747(c), or the control system requirements specified in §63.747(d), shall record the information specified in paragraphs (f)(1) through (f)(4) of this section, as appropriate.

(1) For uncontrolled chemical milling maskants that meet the organic HAP or VOC content limit without averaging:

(i) The mass of organic HAP emitted per unit volume of chemical milling maskant as applied (less water) (H_i) and the mass of VOC emitted per unit volume of chemical milling maskant as applied (less water and exempt solvents) (G_i) for each chemical milling maskant formulation used each month (as determined by the procedures specified in §63.750 (k) and (m));

(ii) All data, calculations, and test results (including EPA Method 24 results) used in determining the values of H_i and G_i ; and

(iii) The volume (gal) of each chemical milling maskant formulation used each month.

(2) For chemical milling maskants complying with the organic HAP or VOC content level by averaging:

(i) The monthly volume-weighted average masses of organic HAP emitted per unit volume of chemical milling maskant as applied (less water) (H_a) and of VOC emitted per unit volume of chemical milling maskant as applied (less water and exempt solvents) (G_a) for all chemical milling maskants (as determined by the procedures specified in §63.750 (l) and (n)); and

(ii) All data, calculations, and test results (including EPA Method 24 results) used to determine the values of H_a and G_a .

(3) For chemical milling maskants that are controlled by a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The length of the rolling material balance period and all data and calculations used for determining this rolling period. The record of the certification of the accuracy of the device that measures the amount of HAP or VOC recovered; or

(ii) For nonregenerative carbon adsorbers, the overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The record of the carbon replacement time established as the site-specific operating parameter to demonstrate compliance.

(4) For chemical milling maskants that are controlled by a control device other than a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(h)) and all test results, data, and calculations used in determining the overall control efficiency;

(ii) If an incinerator other than a catalytic incinerator is used, continuous records of the firebox temperature recorded under §63.751(b)(9) and all calculated 3-hour averages of the firebox temperature; and

(iii) If a catalytic incinerator is used, continuous records of the temperature recorded under §63.751(b)(10) and all calculated 3-hour averages of the recorded temperatures.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15023, Mar. 27, 1998; 63 FR 46534, Sept. 1, 1998]

§ 63.753 Reporting requirements.

(a)(1) Except as provided in paragraphs (a)(2) and (a)(3) of this section, each owner or operator subject to this subpart shall fulfill the requirements contained in §63.9(a) through (e) and (h) through (j), Notification requirements, and §63.10(a), (b), (d), and (f), Recordkeeping and reporting requirements, of the General Provisions, 40 CFR part 63, subpart A, and that the initial notification for existing sources required in §63.9(b)(2) shall be submitted not later than September 1, 1997. In addition to the requirements of §63.9(h), the notification of compliance status shall include:

(i) Information detailing whether the source has operated within the specified ranges of its designated operating parameters.

(ii) For each coating line, where averaging will be used along with the types of quantities of coatings the facility expects to use in the first year of operation. Averaging scheme shall be approved by the Administrator or delegated State authority and shall be included as part of the facility's title V or part 70 permit.

(2) The initial notification for existing sources, required in §63.9(b)(2) shall be submitted no later than September 1, 1997. For the purposes of this subpart, a title V or part 70 permit application may be used in lieu of the initial notification required under §63.9(b)(2), provided the same information is contained in the permit application as required by §63.9(b)(2), and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA. Permit applications shall be submitted by the same due dates as those specified for the initial notifications.

(3) For the purposes of this subpart, the Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment to a particular time period or postmark deadline submitted under §63.9(i) within 30 calendar days of receiving sufficient information to evaluate the request, rather than 15 calendar days as provided for in §63.9(i)(3).

(b) *Cleaning operation.* Each owner or operator of a cleaning operation subject to this subpart shall submit the following information:

(1) Semiannual reports occurring every 6 months from the date of the notification of compliance status that identify:

(i) Any instance where a noncompliant cleaning solvent is used for a non-exempt hand-wipe cleaning operation;

(ii) A list of any new cleaning solvents used for hand-wipe cleaning in the previous 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in §63.744(b)(1);

(iii) Any instance where a noncompliant spray gun cleaning method is used;

(iv) Any instance where a leaking enclosed spray gun cleaner remains unrepaired and in use for more than 15 days; and

(v) If the operations have been in compliance for the semiannual period, a statement that the cleaning operations have been in compliance with the applicable standards. Sources shall also submit a statement of

compliance signed by a responsible company official certifying that the facility is in compliance with all applicable requirements.

(c) *Primer and topcoat application operations.* Each owner or operator of a primer or topcoat application operation subject to this subpart shall submit the following information:

(1) Semiannual reports occurring every 6 months from the date of the notification of compliance status that identify:

(i) For primers and topcoats where compliance is not being achieved through the use of averaging or a control device, each value of H_i and G_i , as recorded under §63.752(c)(2)(i), that exceeds the applicable organic HAP or VOC content limit specified in §63.745(c);

(ii) For primers and topcoats where compliance is being achieved through the use of averaging, each value of H_a and G_a , as recorded under §63.752(c)(4)(i), that exceeds the applicable organic HAP or VOC content limit specified in §63.745(c);

(iii) If incinerators are used to comply with the standards, all periods when the 3-hour average combustion temperature(s) is (are) less than the average combustion temperature(s) established under §63.751(b) (11) or (12) during the most recent performance test during which compliance was demonstrated;

(iv) If a carbon adsorber is used;

(A) each rolling period when the overall control efficiency of the control system is calculated to be less than 81%, the initial material balance calculation, and any exceedances as demonstrated through the calculation; or,

(B) for nonregenerative carbon adsorbers, submit the design evaluation, the continuous monitoring system performance report, and any excess emissions as demonstrated through deviations of monitored values.

(v) For control devices other than an incinerator or carbon adsorber, each exceedance of the operating parameter(s) established for the control device under the initial performance test during which compliance was demonstrated;

(vi) All times when a primer or topcoat application operation was not immediately shut down when the pressure drop across a dry particulate filter or HEPA filter system, the water flow rate through a conventional waterwash system, or the recommended parameter(s) that indicate the booth performance for pumpless systems, as appropriate, was outside the limit(s) specified by the filter or booth manufacturer or in locally prepared operating procedures;

(vii) If the operations have been in compliance for the semiannual period, a statement that the operations have been in compliance with the applicable standards; and,

(2) Annual reports beginning 12 months after the date of the notification of compliance status listing the number of times the pressure drop or water flow rate for each dry filter or waterwash system, as applicable, was outside the limit(s) specified by the filter or booth manufacturer or in locally prepared operating procedures.

(d) *Depainting operation.* Each owner or operator of a depainting operation subject to this subpart shall submit the following information:

(1) Semiannual reports occurring every 6 months from the date of the notification of compliance status that identify:

- (i) Any 24-hour period where organic HAP were emitted from the depainting of aerospace vehicles, other than from the exempt operations listed in §63.746 (a), (b)(3), and (b)(5).
 - (ii) Any new chemical strippers used at the facility during the reporting period;
 - (iii) The organic HAP content of these new chemical strippers;
 - (iv) For each chemical stripper that undergoes reformulation, its organic HAP content;
 - (v) Any new non-chemical depainting technique in use at the facility since the notification of compliance status or any subsequent semiannual report was filed;
 - (vi) For periods of malfunctions:
 - (A) The non-chemical method or technique that malfunctioned;
 - (B) The date that the malfunction occurred;
 - (C) A description of the malfunction;
 - (D) The methods used to depaint aerospace vehicles during the malfunction period;
 - (E) The dates that these methods were begun and discontinued; and
 - (F) The date that the malfunction was corrected;
 - (vii) All periods where a nonchemical depainting operation subject to §63.746(b)(2) and (b)(4) for the control of inorganic HAP emissions was not immediately shut down when the pressure drop, water flow rate, or recommended booth parameter(s) was outside the limit(s) specified by the filter or booth manufacturer or in locally prepared operational procedures;
 - (viii) A list of new and discontinued aircraft models depainted at the facility over the last 6 months and a list of the parts normally removed for depainting for each new aircraft model being depainted; and
 - (ix) If the depainting operation has been in compliance for the semiannual period, a statement signed by a responsible company official that the operation was in compliance with the applicable standards.
- (2) Annual reports occurring every 12 months from the date of the notification of compliance status that identify:
- (i) The average volume per aircraft of organic HAP-containing chemical strippers or weight of organic HAP used for spot stripping and decal removal operations if it exceeds the limits specified in §63.746(b)(3); and
 - (ii) The number of times the pressure drop limit(s) for each filter system or the number of times the water flow rate limit(s) for each waterwash system were outside the limit(s) specified by the filter or booth manufacturer or in locally prepared operating procedures.
- (3) Where a control device is used to control organic HAP emissions, semiannual reports that identify:
- (i) If a carbon adsorber is used,

(A) each rolling period when the overall control efficiency of the control system is calculated to be less than 81% for existing systems or less than 95% for new systems, the initial material balance calculation, and any exceedances as demonstrated through the calculation; or,

(B) for nonregenerative carbon adsorbers, submit the design evaluation, the continuous monitoring system performance report, and any excess emissions as demonstrated through deviations of monitored values.

(ii) For control devices other than a carbon adsorber, each exceedance of the operating parameter(s) established for the control device under the initial performance test during which compliance was demonstrated;

(iii) Descriptions of any control devices currently in use that were not listed in the notification of compliance status or any subsequent report.

(e) *Chemical milling maskant application operation.* Each owner or operator of a chemical milling maskant application operation subject to this subpart shall submit semiannual reports occurring every 6 months from the date of the notification of compliance status that identify:

(1) For chemical milling maskants where compliance is not being achieved through the use of averaging or a control device, each value of H_i and G_i , as recorded under §63.752(f)(1)(i), that exceeds the applicable organic HAP or VOC content limit specified in §63.747(c);

(2) For chemical milling maskants where compliance is being achieved through the use of averaging, each value of H_a and G_a , as recorded under §63.752(f)(2)(i), that exceeds the applicable organic HAP or VOC content limit specified in §63.747(c);

(3) Where a control device is used,

(i) If incinerators are used to comply with the standards, all periods when the 3-hour average combustion temperature(s) is (are) less than the average combustion temperature(s) established under §63.751(b) (11) or (12) during the most recent performance test during which compliance was demonstrated;

(ii) If a carbon adsorber is used,

(A) Each rolling period when the overall control efficiency of the control system is calculated to be less than 81%, the initial material balance calculation, and any exceedances as demonstrated through the calculation; or,

(B) For nonregenerative carbon adsorbers, submit the design evaluation, the continuous monitoring system performance report, and any excess emissions as demonstrated through deviations of monitored values.

(iii) For control devices other than an incinerator or carbon adsorber, each exceedance of the operating parameter(s) established for the control device under the initial performance test during which compliance was demonstrated;

(4) All chemical milling maskants currently in use that were not listed in the notification of compliance status or any other subsequent semiannual report;

(5) Descriptions of any control devices currently in use that were not listed in the notification of compliance status or any subsequent report; and

(6) If the operations have been in compliance for the semiannual period, a statement that the chemical milling maskant application operation has been in compliance with the applicable standards.

[60 FR 45956, Sept. 1, 1996; 61 FR 4903, Feb. 9, 1996, as amended at 61 FR 66227, Dec. 17, 1996; 63 FR 15023, Mar. 27, 1998; 63 FR 46535, Sept. 1, 1998]

§§ 63.754-63.758 [Reserved]

§ 63.759 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 implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

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

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

(1) Approval of alternatives to the requirements in §§63.741, 63.743, 63.744(a)(3), (b) through (e), 63.745 through 63.748, and 63.649(a).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

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

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

[68 FR 37352, June 23, 2003]

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

Reference	Applies to affected sources in subpart GG	Comment
63.1(a)(1)	Yes	
63.1(a)(2)	Yes	
63.1(a)(3)	Yes	
63.1(a)(4)	Yes	
63.1(a)(5)	No	Reserved.
63.1(a)(6)	Yes	

63.1(a)(7)	Yes	
63.1(a)(8)	Yes	
63.1(a)(9)	No	Reserved.
63.1(a)(10)	Yes	
63.1(a)(11)	Yes	
63.1(a)(12)	Yes	
63.1(a)(13)	Yes	
63.1(a)(14)	Yes	
63.1(b)(1)	Yes	
63.1(b)(2)	Yes	
63.1(b)(3)	Yes	
63.1(c)(1)	Yes	
63.1(c)(2)	Yes	Subpart GG does not apply to area sources.
63.1(c)(3)	No	Reserved.
63.1(c)(4)	Yes	
63.1(c)(5)	Yes	
63.1(d)	No	Reserved.
63.1(e)	Yes	
63.2	Yes	
63.3	Yes	
63.4(a)(1)	Yes	
63.4(a)(2)	Yes	
63.4(a)(3)	Yes	
63.4(a)(4)	No	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	Reserved.
63.5(b)(3)	Yes	
63.5(b)(4)	Yes	
63.5(b)(5)	Yes	
63.5(b)(6)	Yes	
63.5(c)	No	Reserved.
63.5(d)(1)(i)	Yes	
63.5(d)(1)(ii)(A)–(H)	Yes	
63.5(d)(1)(ii)(I)	No	Reserved.
63.5(d)(1)(ii)(J)	Yes	
63.5(d)(1)(iii)	Yes	
63.5(d)(2)–(4)	Yes	
63.5(e)	Yes	
63.5(f)	Yes	
63.6(a)	Yes	
63.6(b)(1)–(5)	Yes	§63.749(a) specifies compliance dates for new sources.
63.6(b)(6)	No	Reserved.
63.6(b)(7)	Yes	
63.6(c)(1)	Yes	
63.6(c)(2)	No	The standards in subpart GG are promulgated under section 112(d) of the Act.
63.6(c)(3)–(4)	No	Reserved.
63.6(c)(5)	Yes	
63.6(d)	No	Reserved.

63.6(e)	Yes	63.743(b) includes additional provisions for the operation and maintenance plan.
63.6(f)	Yes	
63.6(g)	Yes	
63.6(h)	No	The standards in subpart GG do not include opacity standards.
63.6(i)(1)–(3)	Yes	
63.6(i)(4)(i)(A)	Yes	
63.6(i)(4)(i)(B)	No	§63.743(a)(4) specifies that requests for extension of compliance must be submitted no later than 120 days before an affected source's compliance date.
63.6(i)(4)(ii)	No	The standards in subpart GG are promulgated under section 112(d) of the Act.
63.6(i)(5)–(12)	Yes	
63.6(i)(13)	Yes	
63.6(i)(14)	Yes	
63.6(i)(15)	No	Reserved.
63.6(i)(16)	Yes	
63.6(j)	Yes	
63.7(a)(1)	Yes	
63.7(a)(2)(i)–(vi)	Yes	
63.7(a)(2)(vii)–(viii)	No	Reserved.
63.7(a)(2)(ix)	Yes	
63.7(a)(3)	Yes	
63.7(b)	Yes	
63.7(c)	Yes	
63.7(d)	Yes	
63.7(e)	Yes	

63.7(f)	Yes	
63.7(g)(1)	Yes	
63.7(g)(2)	No	Reserved.
63.7(g)(3)	Yes	
63.7(h)	Yes	
63.8(a)(1)–(2)	Yes	
63.8(a)(3)	No	Reserved.
63.8(a)(4)	Yes	
63.8(b)	Yes	
63.8(c)	Yes	
63.8(d)	No	
63.8(e)(1)–(4)	Yes	
63.8(e)(5)(i)	Yes	
63.8(e)(5)(ii)	No	The standards in subpart GG do not include opacity standards.
63.8(f)(1)	Yes	
63.8(f)(2)(i)–(vii)	Yes	
63.8(f)(2)(viii)	No	The standards in subpart GG do not include opacity standards.
63.8(f)(2)(ix)	Yes	
63.8(f)(3)–(6)	Yes	
63.8(g)	Yes	
63.9(a)	Yes	
63.9(b)(1)	Yes	
63.9(b)(2)	Yes	§63.753(a)(1) requires submittal of the initial notification at least 1 year prior to the compliance date; §63.753(a)(2) allows a title V or part 70 permit application to be substituted for the initial notification in certain circumstances.

63.9(b)(3)	Yes	
63.9(b)(4)	Yes	
63.9(b)(5)	Yes	
63.9(c)	Yes	
63.9(d)	Yes	
63.9(e)	Yes	
63.9(f)	No	The standards in subpart GG do not include opacity standards.
63.9(g)(1)	No	
63.9(g)(2)	No	The standards in subpart GG do not include opacity standards.
63.9(g)(3)	No	
63.9(h)(1)–(3)	Yes	§63.753(a)(1) also specifies additional information to be included in the notification of compliance status.
63.9(h)(4)	No	Reserved.
63.9(h)(5)–(6)	Yes	
63.9(i)	Yes	
63.9(j)	Yes	
63.10(a)	Yes	
63.10(b)	Yes	
63.10(c)(1)	No	
63.10(c)(2)–(4)	No	Reserved.
63.10(c)(5)–(8)	No	
63.10(c)(9)	No	Reserved.
63.10(c)(10)–(13)	No	
63.10(c)(14)	No	§63.8(d) does not apply to this subpart.
63.10(c)(15)	No	
63.10(d)(1)–(2)	Yes	

63.10(d)(3)	No	The standards in subpart GG do not include opacity standards.
63.10(d)(4)	Yes	
63.10(d)(5)	Yes	
63.(10)(e)(1)	No	
63.10(e)(2)(i)	No	
63.10(e)(2)(ii)	No	The standards in subpart GG do not include opacity standards.
63.10(e)(3)	No	
63.10(e)(4)	No	The standards in subpart GG do not include opacity standards.
63.10(f)	Yes	
63.11	Yes	
63.12	Yes	
63.13	Yes	
63.14	Yes	
63.15	Yes	

[63 FR 15024, Mar. 27, 1998]

Appendix A to Subpart GG of Part 63—Specialty Coating Definitions

Ablative coating—A coating that chars when exposed to open flame or extreme temperatures, as would occur during the failure of an engine casing or during aerodynamic heating. The ablative char surface serves as an insulative barrier, protecting adjacent components from the heat or open flame.

Adhesion promoter—A very thin coating applied to a substrate to promote wetting and form a chemical bond with the subsequently applied material.

Adhesive bonding primer—A primer applied in a thin film to aerospace components for the purpose of corrosion inhibition and increased adhesive bond strength by attachment. There are two categories of adhesive bonding primers: primers with a design cure at 250 °F or below and primers with a design cure above 250 °F.

Aerosol coating—A hand-held, pressurized, nonrefillable container that expels an adhesive or a coating in a finely divided spray when a valve on the container is depressed.

Antichafe coating—A coating applied to areas of moving aerospace components that may rub during normal operations or installation.

Bearing coating—A coating applied to an antifriction bearing, a bearing housing, or the area adjacent to such a bearing in order to facilitate bearing function or to protect base material from excessive wear. A material shall not be classified as a bearing coating if it can also be classified as a dry lubricative material or a solid film lubricant.

Bonding maskant—A temporary coating used to protect selected areas of aerospace parts from strong acid or alkaline solutions during processing for bonding.

Caulking and smoothing compounds—Semi-solid materials which are applied by hand application methods and are used to aerodynamically smooth exterior vehicle surfaces or fill cavities such as bolt hole accesses. A material shall not be classified as a caulking and smoothing compound if it can also be classified as a sealant.

Chemical agent-resistant coating (CARC)—An exterior topcoat designed to withstand exposure to chemical warfare agents or the decontaminants used on these agents.

Clear coating—A transparent coating usually applied over a colored opaque coating, metallic substrate, or placard to give improved gloss and protection to the color coat. In some cases, a clearcoat refers to any transparent coating without regard to substrate.

Commercial exterior aerodynamic structure primer—A primer used on aerodynamic components and structures that protrude from the fuselage, such as wings and attached components, control surfaces, horizontal stabilizers, vertical fins, wing-to-body fairings, antennae, and landing gear and doors, for the purpose of extended corrosion protection and enhanced adhesion.

Commercial interior adhesive—Materials used in the bonding of passenger cabin interior components. These components must meet the FAA fireworthiness requirements.

Compatible substrate primer—Includes two categories: compatible epoxy primer and adhesive primer. *Compatible epoxy primer* is primer that is compatible with the filled elastomeric coating and is epoxy based. The compatible substrate primer is an epoxy-polyamide primer used to promote adhesion of elastomeric coatings such as impact-resistant coatings. *Adhesive primer* is a coating that (1) inhibits corrosion and serves as a primer applied to bare metal surfaces or prior to adhesive application, or (2) is applied to surfaces that can be expected to contain fuel. Fuel tank coatings are excluded from this category.

Corrosion prevention system—A coating system that provides corrosion protection by displacing water and penetrating mating surfaces, forming a protective barrier between the metal surface and moisture. Coatings containing oils or waxes are excluded from this category.

Critical use and line sealer maskant—A temporary coating, not covered under other maskant categories, used to protect selected areas of aerospace parts from strong acid or alkaline solutions such as those used in anodizing, plating, chemical milling and processing of magnesium, titanium, high-strength steel, high-precision aluminum chemical milling of deep cuts, and aluminum chemical milling of complex shapes. Materials used for repairs or to bridge gaps left by scribing operations (i.e. line sealer) are also included in this category.

Cryogenic flexible primer—A primer designed to provide corrosion resistance, flexibility, and adhesion of subsequent coating systems when exposed to loads up to and surpassing the yield point of the substrate at cryogenic temperatures (−275 °F and below).

Cryoprotective coating—A coating that insulates cryogenic or subcooled surfaces to limit propellant boil-off, maintain structural integrity of metallic structures during ascent or re-entry, and prevent ice formation.

Cyanoacrylate adhesive—A fast-setting, single component adhesive that cures at room temperature. Also known as “super glue.”

Dry lubricative material—A coating consisting of lauric acid, cetyl alcohol, waxes, or other non-cross linked or resin-bound materials which act as a dry lubricant.

Electric or radiation-effect coating—A coating or coating system engineered to interact, through absorption or reflection, with specific regions of the electromagnetic energy spectrum, such as the ultraviolet, visible, infrared, or microwave regions. Uses include, but are not limited to, lightning strike protection, electromagnetic pulse (EMP) protection, and radar avoidance. Coatings that have been designated as “classified” by the Department of Defense are exempt.

Electrostatic discharge and electromagnetic interference (EMI) coating—A coating applied to space vehicles, missiles, aircraft radomes, and helicopter blades to disperse static energy or reduce electromagnetic interference.

Elevated-temperature Skydrol-resistant commercial primer—A primer applied primarily to commercial aircraft (or commercial aircraft adapted for military use) that must withstand immersion in phosphate-ester (PE) hydraulic fluid (Skydrol 500b or equivalent) at the elevated temperature of 150 °F for 1,000 hours.

Epoxy polyamide topcoat—A coating used where harder films are required or in some areas where engraving is accomplished in camouflage colors.

Fire-resistant (interior) coating—For civilian aircraft, fire-resistant interior coatings are used on passenger cabin interior parts that are subject to the FAA fireworthiness requirements. For military aircraft, fire-resistant interior coatings are used on parts subject to the flammability requirements of MIL-STD-1630A and MIL-A-87721. For space applications, these coatings are used on parts subject to the flammability requirements of SE-R-0006 and SSP 30233.

Flexible primer—A primer that meets flexibility requirements such as those needed for adhesive bond primed fastener heads or on surfaces expected to contain fuel. The flexible coating is required because it provides a compatible, flexible substrate over bonded sheet rubber and rubber-type coatings as well as a flexible bridge between the fasteners, skin, and skin-to-skin joints on outer aircraft skins. This flexible bridge allows more topcoat flexibility around fasteners and decreases the chance of the topcoat cracking around the fasteners. The result is better corrosion resistance.

Flight test coating—A coating applied to aircraft other than missiles or single-use aircraft prior to flight testing to protect the aircraft from corrosion and to provide required marking during flight test evaluation.

Fuel tank adhesive—An adhesive used to bond components exposed to fuel and that must be compatible with fuel tank coatings.

Fuel tank coating—A coating applied to fuel tank components to inhibit corrosion and/or bacterial growth and to assure sealant adhesion in extreme environmental conditions.

High temperature coating—A coating designed to withstand temperatures of more than 350 °F.

Insulation covering—Material that is applied to foam insulation to protect the insulation from mechanical or environmental damage.

Intermediate release coating—A thin coating applied beneath topcoats to assist in removing the topcoat in repainting operations and generally to allow the use of less hazardous repainting methods.

Lacquer—A clear or pigmented coating formulated with a nitrocellulose or synthetic resin to dry by evaporation without a chemical reaction. Lacquers are resolvable in their original solvent.

Metalized epoxy coating—A coating that contains relatively large quantities of metallic pigmentation for appearance and/or added protection.

Mold release—A coating applied to a mold surface to prevent the molded piece from sticking to the mold as it is removed.

Nonstructural adhesive—An adhesive that bonds nonload bearing aerospace components in noncritical applications and is not covered in any other specialty adhesive categories.

Optical anti-reflection coating—A coating with a low reflectance in the infrared and visible wavelength ranges, which is used for anti-reflection on or near optical and laser hardware.

Part marking coating—Coatings or inks used to make identifying markings on materials, components, and/or assemblies. These markings may be either permanent or temporary.

Pretreatment coating—An organic coating that contains at least 0.5 percent acids by weight and is applied directly to metal or composite surfaces to provide surface etching, corrosion resistance, adhesion, and ease of stripping.

Rain erosion-resistant coating—A coating or coating system used to protect the leading edges of parts such as flaps, stabilizers, radomes, engine inlet nacelles, etc. against erosion caused by rain impact during flight.

Rocket motor bonding adhesive—An adhesive used in rocket motor bonding applications.

Rocket motor nozzle coating—A catalyzed epoxy coating system used in elevated temperature applications on rocket motor nozzles.

Rubber-based adhesive—Quick setting contact cements that provide a strong, yet flexible, bond between two mating surfaces that may be of dissimilar materials.

Scale inhibitor—A coating that is applied to the surface of a part prior to thermal processing to inhibit the formation of scale.

Screen print ink—Inks used in screen printing processes during fabrication of decorative laminates and decals.

Seal coat maskant—An overcoat applied over a maskant to improve abrasion and chemical resistance during production operations.

Sealant—A material used to prevent the intrusion of water, fuel, air, or other liquids or solids from certain areas of aerospace vehicles or components. There are two categories of sealants: extrudable/rollable/brushable sealants and sprayable sealants.

Silicone insulation material—Insulating material applied to exterior metal surfaces for protection from high temperatures caused by atmospheric friction or engine exhaust. These materials differ from ablative coatings in that they are not “sacrificial.”

Solid film lubricant—A very thin coating consisting of a binder system containing as its chief pigment material one or more of the following: molybdenum, graphite, polytetrafluoroethylene (PTFE), or other solids that act as a dry lubricant between faying surfaces.

Specialized function coatings—Coatings that fulfill extremely specific engineering requirements that are limited in application and are characterized by low volume usage. This category excludes coatings covered in other Specialty Coating categories.

Structural autoclavable adhesive—An adhesive used to bond load-carrying aerospace components that is cured by heat and pressure in an autoclave.

Structural nonautoclavable adhesive— An adhesive cured under ambient conditions that is used to bond load-carrying aerospace components or for other critical functions, such as nonstructural bonding in the proximity of engines.

Temporary protective coating— A coating applied to provide scratch or corrosion protection during manufacturing, storage, or transportation. Two types include peelable protective coatings and alkaline removable coatings. These materials are not intended to protect against strong acid or alkaline solutions. Coatings that provide this type of protection from chemical processing are not included in this category.

Thermal control coating— Coatings formulated with specific thermal conductive or radiative properties to permit temperature control of the substrate.

Touch-up and Repair Coating— A coating used to cover minor coating imperfections appearing after the main coating operation.

Wet fastener installation coating— A primer or sealant applied by dipping, brushing, or daubing to fasteners that are installed before the coating is cured.

Wing coating— A corrosion-resistant topcoat that is resilient enough to withstand the flexing of the wings.

[63 FR 15026, Mar. 27, 1998]

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document (TSD) for a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Rolls Royce Corporation
Source Location:	2001 and 2355 S Tibbs Ave., Indianapolis, IN 46241
County:	Marion
SIC Code:	3724
Permit Renewal No.:	T097-25529-00311
Permit Reviewer:	Roger Osburn

On January 25, 2010, the Office of Air Quality (OAQ) had a notice published in the Indianapolis Star, Indianapolis, Indiana, stating that Rolls Royce Corporation had applied for a Part 70 Operating Permit to operate a manufacturing and testing facility for aerospace engines. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Changes to the permit are noted as follows: ~~struck~~ language has been deleted; **bold** language has been added. The Table of Contents has been modified to reflect these changes.

Comments on the proposed Part 70 permit renewal were received on February 24, 2010, from Pravin Patel on behalf of Rolls Royce Corporation. The summary of the comments is as follows.

Comment 1:

Rolls Royce Corporation proposes to revise Condition D.2.1 to change the VOC limit of each spray booth from 3.0 pounds of VOC per gallon to 15 pounds of VOC per day.

Response to Comment 1

Since the 15 pounds of VOC per day limit was in the previous Part 70 permit and compliance with this condition shall make the Miscellaneous Metal Parts Rule 326 IAC 8-2-9 not applicable, the permit will be changed as follows:

D.2.1 VOC Emissions [326 IAC 8-1-1]

Pursuant to 326 IAC 8-1-1(b) (~~Miscellaneous Metal Coating Operations~~), the **actual emissions of** volatile organic compounds (VOC) ~~content of the coating delivered to the applicator at the~~ **from each** paint booths identified as, 0070-N56a, 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, and 0070-85, shall be limited to **less than 15.0** ~~3.0~~ pounds of VOCs per ~~gallon of coating less water~~ **day before add-on controls**.

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Office of Air Quality

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Permit Reviewer:	Roger Osburn

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Rolls Royce Corporation relating to the operation of a manufacturing and testing facility for aerospace engines.

History

On November 14, 2007, Rolls Royce Corporation submitted an application to the OAQ requesting to renew its operating permit. Rolls Royce Corporation was issued its first Part 70 Operating Permit on August 13, 2003.

Source Definition

Rolls Royce Corporation consists of two (2) plants:

- (a) Plant 8 is located at 2001 South Tibbs Avenue, Indianapolis, Indiana 46241; and
- (b) Plant 5 is located at 2355 South Tibbs Avenue, Indianapolis, Indiana 46241.

Since the two (2) plants are located on contiguous properties, have the same SIC code and are under common control of the same entity, they are considered one (1) source, as defined by 326 IAC 2-7-1(22). This determination was made during the issuance of the Part 70 Permit 097-7238-00311 in 2003 and has not been changed in this permitting approval.

Permitted Emission Units and Pollution Control Equipment

This stationary source consists of the following emission units and pollution control devices:

- (a) Six (6) boilers identified below:

EU ID	Unit Identification	MMBtu/hr	Fuels Permitted to Use	Stack	Date constructed
0070-58	Babcock & Wilcox Boiler	44	Natural Gas, Landfill Gas, No. 2, No. 4 & No. 6 fuel oil	8-3	1953
0070-59	Babcock & Wilcox Boiler	44	Natural Gas, Landfill Gas, No. 2, No. 4, & No. 6 fuel oil	8-4	1953
0070-62	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4, & No. 6 fuel oil	8-5	1969
0070-63	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4, & No. 6 fuel oil	8-6	1969
0070-64	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4, & No. 6 fuel oil	8-7	1969
0070-65	Combustion Engineering Boiler	244	Natural Gas, Landfill Gas, No. 2, No. 4, & No. 6 fuel oil	8-8	1969

- (b) Two (2) gas turbines identified below:

Emission Unit ID No.	Unit Identification	Maximum Capacity, MMBtu/hr	Fuels Permitted to use	Stack No.	Date Constructed or last permitted
0070-80	Gas Turbine	68	Natural Gas, Landfill gas	8-80	1999
0070-71	Gas Turbine	35	Natural Gas	8-9	1999

(c) Eight (8) paint booths identified as emission units 0070-N56a, 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, 0070-85, and 0070-86, controlled by dry filters, exhausting out stacks identified as SN56 a & b, 5-10a, 5-10b, 5-10c, 5-10d, S-84, S-85, and S-86, respectively. Paint booths 0070-N56a, 0070-10a, 0070-10b, 0070-10c, and 0070-10d were installed prior to 1974 and modified in 1998 to comply with the aerospace NESHAPs. Paint booths 0070-84, 0070-85, and 0070-86 were installed in 2003.

(d) Facility-wide wipe cleaning operations.

(e) Degreasing operations, consisting of:

- (1) Two (2) Open Top Vapor Degreasers, identified as emission units 0070-13 and 0070-31, using perchloroethylene as the solvent, exhausting inside the building and reconstructed in 1997.
- (2) One (1) Open Top Vapor Degreasers, identified as emission units 0311-82 is permitted to use N-Propyl Bromide and Perchloroethylene as the solvent, exhausting inside the building and reconstructed in 2000.
- (3) Portable Cold Cleaner Degreasing Tanks, used for degreasing parts, identified as emission unit 0070-12, using mineral spirits as the solvent and exhausting into the building.
- (4) Spray cleaning booths, constructed prior to 1990, identified as emission unit 0070-14, using mineral spirits as the solvent and exhausting outside the building.
- (5) One (1) stationary enclosed parts cleaning machine, Vacuum Degreaser Model V4-EX, identified as emission unit 24087, receiving approval to construct in 2006, using only Tetrachloroethylene as the solvent, with a cleaning capacity of 1.135 cubic meters, and exhausting inside the building.

Under 40 CFR 63, Subpart T, these units are considered affected facilities.

(f) Miscellaneous sand and shot Blast Machine operations identified as:

- (1) Emission unit 0070-N55, miscellaneous sanding and blasting, controlled by dust collector, exhausting out stack SN55, constructed in 1991.

(g) Woodworking operations, prior to 1969, consisting of:

- (1) Emission unit 0070-72, controlled by dust collector, exhausting out stack 8-16,
- (2) Emission unit 0070-05, controlled by dust collector, exhausting out stack 5-8.

(h) Jet fueled turbine engines, constructed in 1955, identified as follows:

- (1) Two (2) emission units identified as 0070-66, with a maximum operating capacity of 107 million British thermal units per hour each, exhausting out stacks identified as 8-11A and 8-11B;

- (2) Twelve (12) emission units identified as 0070-67, with a maximum operating capacity of 27.2 million British thermal units per hour each, exhausting out stacks identified 8-13A through M respectively.
- (3) Ten (10) emission units identified as 0070-68, with a maximum operating capacity of 27.2 million British thermal units per hour each, exhausting out stacks identified as 8-12A through J.
- (4) Four (4) emission units identified as 0070-69, with a maximum operating capacity of 27.2 million British thermal per hour units each, exhausting out stacks identified as 8-14A through D.
- (i) Three (3) American Shack Heaters, identified as emission unit 0070-70, exhausting out stacks identified 8-6 A through C consisting of:
 - (1) Two (2) natural gas fired heaters, identified as 0070-70A and 0070-70B, having a maximum heating put capacity of 90.0 million British thermal units per hour each; and
 - (2) One (1) natural gas fired heater, identified as 0070-70C, having a maximum heat input capacity of 90 million British thermal units per hour.
- (j) Forty-nine (49) Engine test stand cells identified below. These test stand cells are used to test engines manufactured at the source. The engines tested are fueled by Jet fuel, Diesel Oil #2, or Natural Gas. All test stand cells were constructed prior to 1977, except test stand cells Emission Unit ID 0070-87 and 0070-88 that received approval to construct in 2007. Test cell 0070-N32 (824) was approved for modification in 2008.

Engine Test Cells - Plant 5				
Emission Unit ID No.	Engine Test Cell ID	Maximum Test Cell Capacity	Type of Fuels Used	Stack ID
0070-N3	109	5000 brake horsepower	Jet fuel, Diesel	SN3
0070-N4	111	10000 pounds of thrust	Jet fuel	SN4
0070-N5	113	10000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN5
0070-N6	114	30000 pounds of thrust	Jet fuel	SN6
0070-N7	115	7000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN7
0070-N8	116	5000 brake horsepower	Jet fuel, Diesel	SN8
0070-N9	117	5000 brake horsepower	Jet fuel, Diesel	SN9
0070-N10	118	5000 brake horsepower	Jet fuel, Diesel	SN10
0070-N11	119	5000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN11
0070-N12	120	7000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN12
0070-N13	121	10000 brake horsepower	Jet fuel, Diesel	SN13

Engine Test Cells - Plant 5				
Emission Unit ID No.	Engine Test Cell ID	Maximum Test Cell Capacity	Type of Fuels Used	Stack ID
0070-N15	123	5000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN15
0070-N16	140	1500 brake horsepower	Jet fuel	SN16
0070-N17	141	750 brake horsepower	Jet fuel	SN17
0070-N18	142	800 brake horsepower	Jet fuel	SN18
0070-N19	143	750 brake horsepower	Jet fuel	SN19
0070-N20	144	750 brake horsepower	Jet fuel	SN20
0070-N21	145	750 brake horsepower	Jet fuel	SN21
0070-N22	146	1500 brake horsepower	Jet fuel	SN22
0070-N23	147	1500 brake horsepower	Jet fuel	SN23
0070-N24	148	1500 brake horsepower	Jet fuel	SN24
0070-N25	149	650 brake horsepower	Jet fuel	SN25
0070-N27	152	1500 brake horsepower	Jet fuel	SN27
0070-87	133	715 brake horsepower, with maximum fuel flow capacity of 59 gal/hr	Jet fuel	S87
0070-88	135	715 brake horsepower, with maximum fuel flow capacity of 59 gal/hr	Jet fuel	S88

Engine Test Cells - Plant 8				
Emission Unit ID	Engine Test Cell	Maximum Test Cell Capacity	Type of Fuels Used	Stack ID
0070-N34	843	10000 brake horsepower	Jet fuel	SN34(A,B)
0070-N35	861	9000 pounds of thrust	Jet fuel, Diesel	SN35
0070-N36	862	6000 brake horsepower	Jet fuel, Diesel	SN36
0070-N37	871	15000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN37(A,B)
0070-N38	872	9000 brake horsepower	Jet fuel, Diesel & Natural Gas	SN38(A,B)
0070-N39	873	9000 brake horsepower	Jet fuel	SN39(A,B,C)

Engine Test Cells - Plant 8				
0070-N40	875	5000 brake horsepower	Diesel	SN40
0070-N41	881	10000 pounds of thrust	Jet fuel	SN41(A,B)
0070-N42	882	30000 pounds of thrust	Jet fuel	SN42(A,B,C,D,E,F)
0070-N43	883	2500 brake horsepower	Jet fuel	SN43(A,B)
0070-N44	884	2000 brake horsepower	Jet fuel	SN44
0070-N45	885	800 brake horsepower	Jet fuel, Diesel	SN45(A,B)
0070-N46	886	30000 pounds of thrust	Jet fuel, Diesel	SN46(A,B,C,D)
0070-N47	893	500 pounds of thrust	Diesel	SN47
0070-N48	894	350 brake horsepower	Diesel	SN48
0070-N29	821	10 pounds/second air	Jet fuel, Diesel & Natural Gas	SN29(A,B)
0070-N30	822	50 pounds/second air	Jet fuel, Diesel & Natural Gas	SN30(A,B)
0070-N31	823	60 pounds/second air	Jet fuel, Diesel & Natural Gas	SN31(A,B)
0070-N32	824	120 pounds/second air	Jet fuel, Diesel & Natural Gas	SN32(A,B)
0070-N33	826	25 pounds/second air	Jet fuel, Diesel	SN33(A,B)
0070-54	8137	10 pounds/second air	Jet fuel, Diesel & Natural Gas	SN54
0070-N54a	8137	12.5 MMBtu/hr	No. 2 Diesel fuel	Not Available
0070-N55	8126	0.5 pounds/second air	Jet fuel, Diesel & Natural Gas	Not Available
0070-N56	8128	1 pounds/second air	Jet fuel, Diesel & Natural Gas	Not Available

- (k) One (1) engine test cell, identified as emission unit 00311-83. The engines tested in this test cell have an operating capacity of 10,000 pounds of thrust and are fired with Jet A fuel. A maximum of six engines per day can be tested in this test cell. Emissions from this test cell are exhausted out stack 5-83 and are not controlled. This emission unit was initially constructed prior to 1970 and modified in 1999.
- (l) Rental diesel-fired generators, identified as 0070-89, permitted in 2008 and 2009, and approved for installation on an as-needed basis.

Insignificant Activities

- (a) Storage vessels, containing volatile organic liquid, identified as tank 1 through 6 and 9 through 20 at plant 5 and tanks 1 through 5 at plant 8. Each tank has a capacity greater than 40 cubic meters but less than 75 cubic meters and a construction date after July 23, 1984. [40 CFR 60, Subpart Kb]
- (b) Classified documents incinerator with a maximum rated capacity of 125 pounds per two hour cycle. [326 IAC 4-2] [326 IAC 9-1]

- (c) The following activities or categories of activities with individual HAP emissions not previously identified which have potential emissions greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP. [326 IAC 6.5-1]
 - (1) Stationary and portable welding, brazing, soldering and cutting operations
 - (2) Fuel and oil nozzle test stands
 - (3) Penetrant test
 - (4) Chemical milling and deoxidizing solution
 - (5) Air stripper at waste treatment plant
 - (6) Print shop operations
 - (7) All plating operations
 - (8) Powder coating
- (d) Space heaters, process heaters, or boilers using the following fuels.
 - A) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour.
 - B) Propane or liquified petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour.
- (e) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.
- (f) Combustion source flame safety purging on startup.
- (g) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.
- (h) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.
- (i) The following VOC and HAP storage containers:
 - A) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.
 - B) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (j) Equipment used exclusively for the following:
 - A) Packaging lubricants and greases.
 - B) Filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.
- (k) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (l) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (m) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6.

- (n) Cleaners and solvents characterized as follows:
 - A) having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38 degrees C (100°F) or;
 - B) having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F);the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
- (o) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.
- (p) Closed loop heating and cooling systems.
- (q) Infrared cure equipment.
- (r) Exposure chambers ("towers", "columns"), for curing of ultraviolet inks and ultra-violet coatings where heat is the intended discharge.
- (s) Any of the following structural steel and bridge fabrication activities:
 - A) Cutting 200,000 linear feet or less of one inch (1") plate or equivalent.
 - B) Using 80 tons or less of welding consumables.
- (t) Rolling oil recovery systems.
- (u) Groundwater oil recovery wells.
- (v) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.
- (w) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.
- (x) Water based adhesives that are less than or equal to 5% by volume of VOCs excluding HAPs.
- (y) Noncontact cooling tower systems with either of the following:
 - A) Natural draft cooling towers not regulated under a NESHAP.
 - B) Forced and induced draft cooling tower system not regulated under a NESHAP.
- (z) Quenching operations used with heat treating processes.
- (aa) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (bb) Heat exchanger cleaning and repair.
- (cc) Process vessel degassing and cleaning to prepare for internal repairs.
- (dd) Stockpiled soils from soil remediation activities that are covered and waiting transport for disposal.
- (ee) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (ff) Covered conveyors for limestone conveying of less than or equal to 7,200 tons per day for sources other than mineral processing plants constructed after August 31, 1983;

- (gg) Coal bunker and coal scale exhausts and associated dust collector vents.
- (hh) Asbestos abatement projects regulated by 326 IAC 14-10.
- (ii) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.
- (jj) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.
- (kk) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (ll) Furnaces used for melting metals other than beryllium with a brim full capacity of less than or equal to 450 cubic inches by volume.
- (mm) On-site fire and emergency response training approved by the department.
- (nn) Emergency generators as follows:
 - A) Gasoline generators not exceeding 110 horsepower.
 - B) Diesel generators not exceeding 1600 horsepower.
- (oo) Emergency Stationary fire pumps.
- (pp) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
- (qq) Filter or coalescer media changeout.
- (rr) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 38 degrees C).
- (ss) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (tt) The following activities or categories of activities with individual HAP emissions which have potential emissions greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP;
 - A) Stationary and portable welding, brazing, soldering and cutting operations [326 IAC 6.5-1]
 - B) Fuel and oil nozzle test stands
 - C) Penetrant test
 - D) Chemical milling and deoxidizing solution
 - E) Air stripper at waste treatment plant
 - F) Print shop operations
 - G) All plating operations
 - H) Powder coating [326 IAC 6.5-1]

- (uu) The following activities or categories of activities with a combination of HAP emissions which have potential emissions greater than 1 pound per day but less than 12.5 pounds per day or 2.5 ton per year of any combination of HAPs;
 - A) VES remediation system. HAP s include PCE, TCE and 111-TCA. Total potential emissions estimated at 9 lbs/day.
- (vv) The following activities or categories which have potential emissions less than significance thresholds listed under 326 IAC 2-7-1(21)(A)(B);
 - (a) Manual grinding, deburring, buffing and polishing
 - (b) Aqueous cleaning solvent with less than 20% HAP or VOC
 - (c) Adhesive sealants and epoxy used in manufacturing process
 - (d) Part ID# marking process
 - (e) Photographic development services
 - (f) Packaging parts
 - (g) Remediation activity from fuel and solvent spill
 - (h) Oil reclaiming system
 - (i) Waste treatment operations
- (ww) Process heaters less the 1.5 MMBtu/hr burning jet fuel.

Emission Units and Pollution Control Equipment Removed From the Source

The chrome plating and anodizing line consisting of seven (7) chromium tanks (six hard chrome electroplating tanks and one anodizing tank), identified as 0070-99; have been removed from the source. Therefore, all applicable conditions including National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks [40 CFR 63, Subpart N] [326 IAC 20-8] have been removed from this renewal.

Existing Approvals

Since the issuance of the Part 70 Operating Permit (097-7238-00311) on August 13, 2003, the source has constructed or has been operating under the following approvals as well:

- (a) Significant Source Modification No. (097-17981-00311) issued on October 3, 2003;
- (b) Significant Permit Modification No. (097-17398-00311) issued on October 17, 2003;
- (c) Administrative Amendment No. (097-19823-00311) issued on December 6, 2004;
- (d) Administrative Amendment No. (097-19823-00311) issued on June 15, 2005;
- (e) Administrative Amendment No. (097-19823-00311) issued on June 29, 2006;
- (f) Minor Source Modification No. (097-23458-00311) issued on August 10, 2006;
- (g) Significant Permit Modification No. (097-23459-00311) issued on October 12, 2006;
- (h) Significant Source Modification No. (097-23886-00311) issued on December 13, 2007;
- (i) Minor Source Modification No. (097-25777-00311) issued on January 16, 2008
- (j) Significant Permit Modification No. (097-24074-00311) issued on January 29, 2008;
- (k) Minor Permit Modification No. (097-25778-00311) issued on April 28, 2008;
- (l) Significant Source Modification (097-26350-00311) issued on August 22, 2008;
- (m) Significant Source Modification No. (097-26350-00311) issued on August 22, 2008;
- (n) Significant Permit Modification No. (097-26377-00311) issued on September 11, 2008;
- (o) Significant Source Modification No. (097-27289-00311) issued on June 5, 2009;
- (p) Significant Permit Modification No. (097-26695-00311) issued on June 24, 2009;

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Marion County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of Indianapolis bounded by 11 th Street on the north; Capitol Avenue on the west; Georgia Street on the south; and Delaware Street on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of Indianapolis and Marion County.
O ₃	Attainment effective November 8, 2007, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Attainment effective July 10, 2000, for the part of Franklin Township bounded by Thompson Road on the south; Emerson Avenue on the west; Five Points Road on the east; and Troy Avenue on the north. Attainment effective July 10, 2000, for the part of Wayne Township bounded by Rockville Road on the north; Girls School Road on the east; Washington Street on the south; and Bridgeport Road on the west. The remainder of the county is not designated.
¹ Attainment effective October 18, 2000, for the 1-hour ozone standard for the Indianapolis area, including Marion County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour designation was revoked effective June 15, 2005. Basic nonattainment designation effective federally April 5, 2005, for PM2.5.	

(a) Ozone Standards

- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, and St. Joseph Counties as attainment for the 8-hour ozone standard.
- (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, and Shelby Counties as attainment for the 8-hour ozone standard.
- (4) Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
 Marion County has been classified as nonattainment for PM_{2.5} in 70 FR 943 dated January 5, 2005. On May 8, 2008, U.S. EPA promulgated specific New Source Review rules for PM_{2.5} emissions. These rules became effective on July 15, 2008. Therefore, direct PM_{2.5} and SO₂ emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.
- (c) **Other Criteria Pollutants**
 Marion County has been classified as attainment or unclassifiable in Indiana for PM₁₀, SO₂, NO₂, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (d) Since a portion of this source is classified as fossil fuel boilers with a total of more than 250 MMBtu/hour heat input, that portion of the source is considered one (1) of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (e) **Fugitive Emissions**
 Since this type of operation is not one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2, fugitive emissions are not counted toward the determination of PSD applicability except for the portion of the source described below.

Since emission units 0070-58, 0070-59, 0070-62, 0070-63, 0070-64, and 0070-65 are one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3 or 326 IAC 2-1.1-5, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability for these types of units only.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	>250
PM ₁₀	>250
PM _{2.5}	>250
SO ₂	>250
VOC	>250
CO	>250
NO _x	>250

HAP's	Potential Emissions (tons/year)
Individual HAP	greater than 10
Combination of HAPs	greater than 25

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of CO, SO₂, NO_x, VOC, PM, PM₁₀, and PM_{2.5} are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

- (c) This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are not counted toward the determination of Part 70 applicability. Emission units 0070-58, 0070-59, 0070-62, 0070-63, 0070-64, and 0070-65 are one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3 or 326 IAC 2-1.1-5, therefore, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability for these types of units only.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2006 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	38.84
PM ₁₀	40.00
PM _{2.5}	31.93
SO ₂	223.0
VOC	38.55
CO	59.71
NO _x	165.4
HAP	-

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

- (a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.
- (b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Emission Unit	Limited Potential to Emit (tons/year)							
	PM	PM ₁₀	PM _{2.5}	SO ₂	VOC	CO	NO _x	HAPs
0070-01,02,03,04 Plant 5 Boilers	130 (1)	130(9)	130(9)	(2)	4	96	325.74 (9) and (7)	<1
0070-58, 59, 62, 63,64 and 65 Plant 8 Boiler				(3)	8	190		<1
0070-71, 80 Gas Tribunes				(4)	(7)	54		300
0070-10 (4) Production Paint Booths	(4)	(4)	(4)	--	--	--	37	22
0070-N56 (2) Paint Booths	(4)	(4)	(4)	--	--	--		(8)
0070-12 (328) Cold Solvent Cleaning Dip Tanks	--	--	--	--	23.2*	--	--	<1
0070-14 (100) Mineral Spirits Spray Booths								
0070-13 and 31 (2) Perc. Vapor Degreasers					17.4*	--	--	17.4*
0070-66 (2) Gas Turbine Engines	(4)	(4)	(4)	52	341	463	269	>25
0070-67 (12) Gas Turbine Engines	(4)	(4)	(4)	75	81	288	819	>25
0070-68 (10) Gas Turbine Engines	(4)	(4)	(4)	62	68	240	683	>25
0070-69 (4) Gas Turbine Engines	(4)	(4)	(4)	62	68	240	683	>25
0070-70 (3) American Shack Heater	(4)	(4)	(4)	(5)	2	33	56	>25
0070-N3 to 0070-N54 (50) Engine Test Cells	(4)	(4)	(4)	(5)	2,749 (6)	14,056	4,626	>25
0070-09 (x) Blade Grinding Booths	(4)	(4)	(4)	--	--	--	--	--
0070-08 (x) Shot Blast Machines	(4)	(4)	(4)	--	--	--	--	--
0070-72 Woodworking Pattern Shop	(4)	(4)	(4)	--	--	--	--	--
0070-73 Woodworking Carpenter Shop	(4)	(4)	(4)	--	--	--	--	--
0070-74 Sandblasting Equipment	(4)	(4)	(4)	--	--	--	--	--

Emission Unit	Limited Potential to Emit (tons/year)							
	PM	PM ₁₀	PM _{2.5}	SO ₂	VOC	CO	NO _x	HAPs
0070-75 Woodworking	(4)	(4)	(4)	--	--	--	--	--
0070-N55 Mics. Sanding, Blasting and Grinding	(4)	(4)	(4)	--	--	--	--	--
Insignificant Tanks 1 through 6 and 9 through 20 at plant 5 and tanks 1 through 5 at plant 8	--	--	--	--	<5	--	--	<5
Total	>250	>250	>250	>250	>250	>250	>250	>25

* Permittee supplied worst case estimation of VOC usage

- (1) Pursuant to 326 IAC 6.5-6-33, the PM PTE for emissions unit 0070-01 through 0070-04, 0070-58, 0070-59, and 0070-62 through 0070-65 combined is limited to 130 tons per year.
- (2) Pursuant to 326 IAC 7-4-2(2), the PTE of SO₂ from each boiler 0070-01 through 0070-04 is limited to 299.4 pounds per hour and 3.99 pounds per million Btu.
- (3) Pursuant to 326 IAC 7-4-2(27), the PTE of SO₂ from emission units 0070-58, 59, 62, 63, 64, and 65 are limited to 2.1 pounds per million Btu when combusting fuel oil and following the operating requirements in 326 IAC 7-4-2(27)(B)(i) through (iii).
- (4) Pursuant to 326 IAC 6.5-1-2, the particulate emissions from emission units 0070-08, 0070-09, 0070-10, 0070-66, 0070-67, 0070-68, 0070-69, 0070-70, 0070-71, 0070-72, 0070-73, 0070-74, 0070-75, 0070-80, 0070-N3 through 0070-N54, 0070-N55, and 0070-N56 is each limited to 0.03 grains per dry standard cubic feet.
- (5) Pursuant to 326 IAC 7-1.1-2 the SO₂ emissions from 0070-70, N3 through N54 are limited to 0.5 lbs/MMBtu when firing distillate oil.
- (6) Pursuant to 326 IAC 8-1-6, the VOC emission rate from test cell 824 (0070-N32) shall be limited to 0.21 pounds of VOC per gallon (lb/gal) of diesel/jet fuel combusted or an emission rate determined from the most recent emissions test. The VOC emissions from test cell 824 (0070-N32), shall not exceed 25 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (7) Pursuant to 40 CFR Part 60 Subpart GG the PTE for NO_x and SO₂ from emissions units 0070-71 and 80 are limited to 0.062 lbs/MMBtu when burning landfill gas, Emission Unit ID 0070-80 is limited to 0.390 lbs/MMBtu when combusting natural gas, Emission Units ID 0070-71 are limited to 0.450 lbs/MMBtu when combusting natural gas.
- (8) Pursuant to 40 CFR Part 63 Subpart GG the PTE of HAPs from emission units 0070-N56 are limited by reducing the operation's organic HAP and VOC emissions to the atmosphere by 81% or greater, taking into account capture and destruction or removal efficiencies, as determined using the procedures in §63.750(h).
- (9) Pursuant to condition 9 of CP099-0311-01, issued on June 10, 1999 the PM₁₀ and NO_x emissions from emission units 01, 02, 03, 04, 58, 59, 62, 63, 64, 65, 76, 79, 80, and 81 are limited to less than 130 tons of PM₁₀ and 325.74 tons of NO_x per twelve consecutive month period.
 - (a) This existing stationary source is major for Emission Offset and/or Nonattainment NSR because the emissions of the nonattainment pollutant, PM_{2.5} are greater than one hundred (>100) tons per year.
 - (b) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are not counted toward the determination of PSD and Emission Offset applicability. However, emission units 0070-58, 0070-59, 0070-62, 0070-63, 0070-64, and 0070-65 are one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3 or 326 IAC 2-1.1-5, therefore,

fugitive emissions are counted toward the determination of PSD and Emission Offset applicability for these types of units only.

Federal Rule Applicability

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each existing pollutant-specific emission unit that meets the following criteria:
 - (1) has a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;
 - (2) is subject to an emission limitation or standard for that pollutant; and
 - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each existing emission unit and specified pollutant subject to CAM:

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
0070-N56a/PM	Y	Y	<100	<100	100	N	N
0070-10a/PM	Y	Y	<100	<100	100	N	N
0070-10b/PM	Y	Y	<100	<100	100	N	N
0070-10c/PM	Y	Y	<100	<100	100	N	N
0070-10d/PM	Y	Y	<100	<100	100	N	N
0070-84/PM	Y	Y	<100	<100	100	N	N
0070-85/PM	Y	Y	<100	<100	100	N	N
0070-08/PM	Y	Y	<100	<100	100	N	N
0070-N55/PM	Y	Y	<100	<100	100	N	N
0070-74/PM	Y	Y	<100	<100	100	N	N
0070-72/PM	Y	Y	<100	<100	100	N	N
0070-73/PM	Y	Y	<100	<100	100	N	N
0070-05/PM	Y	Y	<100	<100	100	N	N

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the existing units as part of this Part 70 permit renewal.

- (b) The Permittee shall comply with the provisions of Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels), which are incorporated by reference as 326 IAC 12-1-1. Nonapplicable portions of the NSPS will not be included in the permit. Storage tanks identified tank 3 through 6 at plant 5 and tanks 7 through 12 at plant 8 are subject to the following requirements of 40 CFR Part 60, Subpart Kb:
 - (1) 40 CFR 60.110b (a), (b), (d)(1-8), (e)(i-ii), (2), (3), (4)
 - (2) 40 CFR 60.111b
 - (3) 40 CFR 60.117b
- (c) The Permittee shall comply with the provisions of Standards of Performance for Stationary Gas Turbines, which are incorporated by reference as 326 IAC 12-1-1. Nonapplicable portions of the NSPS will not be included in the permit. The five turbines identified as emission units 0070-71, 0070-76, 0070-79, 0070-80, 0070-81 are subject to the following requirements of 40 CFR Part 60, Subpart GG:

- (1) 40 CFR 60.330
- (2) 40 CFR 60.331
- (3) 40 CFR 60.332(a)(2), (4)
- (4) 40 CFR 60.333(b)
- (5) 40 CFR 60.334(c)
- (6) 40 CFR 60.335(a), (b)(2)

The four (4) gas turbines identified as emission units 0070-66, 0070-67, 0070-68, and 0070-69 are not subject to New Source Performance Standards (NSPS), Subpart GG, since these turbines were not constructed, reconstructed or modified after the effective date of October 3, 1977.

- (d) The requirements of 40 CFR 60, Subpart IIII are not applicable to the rental diesel-fired generators, provided they meet the following requirements:
- (1) Any rental diesel-fired generator, that is part of 0070-89, shall remain at a location for a period not to exceed twelve (12) consecutive months.
 - (2) Any unit that replaces a rental diesel-fired generator at a location that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.
 - (3) For the purposes of this condition and pursuant to 40 CFR 1068.30 *Nonroad Engine* (2)(iii), a location is any single site at a building, structure, facility, or installation.

All other internal combustion engines were purchased prior to January 2005, therefore 40 CFR 60, Subpart IIII is not applicable.

- (e) The Permittee shall comply with the provisions of National Emission Standards for Halogenated Solvent Cleaning, which is incorporated by reference as 326 IAC 20-6-1. Nonapplicable portions of the NESHAP will not be included in the permit. The three (3) open top vapor degreasers identified as 0070-13, 0070-31, 311-82 and one (1) stationary enclosed parts cleaning machine, Vacuum Degreaser Model V4-EX, identified as emission unit 24087, are subject to the following requirements of 40 CFR Part 63, Subpart T:

- (1) 40 CFR 63.460
- (2) 40 CFR 63.461
- (3) 40 CFR 63.463(a)(1-7),(b)(1)(i),(b)(2)(i),(c),(d),(e),
- (4) 40 CFR 63.465(e)
- (5) 40 CFR 63.466(a)(1),(b)(1),(c)(1-4)
- (6) 40 CFR 63.467(a),(b)
- (7) 40 CFR 63.468(a),(b),(d),(f)
- (8) 40 CFR 63, Subpart T - Appendix A (applicable portions)

- (f) The Permittee shall comply with the provisions of National Emission Standards for Aerospace Manufacturing and Rework Facilities, which is incorporated by reference as 326 IAC 20-15-1. Nonapplicable portions of the NESHAP will not be included in the permit. The six (6) paint booths, identified as 0070-N56(a) and (b) and 0070-10(a) thru (d) and the related hand-wipe cleaning, flush cleaning, and waste storage and handling operations are subject to the following requirements of 40 CFR Part 63, Subpart GG:

- (1) 40 CFR 63.741(f)
- (2) 40 CFR 63.742
- (3) 40 CFR 63.744(a)(1-3),(b)(2),(c)(1)(ii)(2-3),(d)

- (4) 40 CFR 63.748
 - (5) 40 CFR 63.750(a), (b)
 - (6) 40 CFR 63.751(a)
 - (7) 40 CFR 63.752(b)(1)(2)(5)(d)
 - (8) 40 CFR 63.753(b)(c)
 - (9) Table 1 to 40 CFR 63, Subpart GG (applicable portions)
- (g) This source is subject to the National Emission Standards for Hazardous Air Pollutants for Engine Test Cells / Stands (40 CFR 63.9280, Subpart P PPPP), which is incorporated by reference as 326 IAC 20-75. However, pursuant to 63.9290 (b), existing affected sources do not have to meet the requirements of this subpart.
- (h) The requirements of 40 CFR 60, Subpart ZZZZ are not applicable to the rental diesel-fired generators, provided they meet the following requirements:
- (1) Any rental diesel-fired generator, that is part of 0070-89, shall remain at a location for a period not to exceed twelve (12) consecutive months.
 - (2) Any unit that replaces a rental diesel-fired generator at a location that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.
 - (3) For the purposes of this condition and pursuant to 40 CFR 1068.30 *Nonroad Engine* (2)(iii), a location is any single site at a building, structure, facility, or installation.

State Rule Applicability - Entire Source

326 IAC 2-2 (PSD) (Prevention of Significant Deterioration) and 326 IAC 2-1.1-5 (Nonattainment NSR)

Rolls Royce Corporation is a major source since it has the potential to emit a criteria air pollutant greater than two hundred and fifty tons per year. This source is not considered one (1) of the twenty-eight (28) listed source categories. However, the boilers identified as 0070-58, 0070-59, 0070-62, 0070-63, 0070-64, and 0070-65, have a total heat input rating of greater than 250 MMBtu/hr, are considered one of the 28 listed source categories. These boilers potential to emit for NO_x or CO is 100 tons per year or greater. Therefore, they are subject to 326 IAC 2-2.

- (a) Pursuant to Part 70 Significant Source Modification No. 097-11221-00311, issued December 28, 1999, Emission Unit 0311-83, which tests jet A fuel combustion engines, was added to the source. Since the construction took place after August 7, 1977 the emission unit was reviewed pursuant to 326 IAC 2-2. A PTE limit of less than 40 tons of NO_x per year was added making the provisions of PSD not applicable. Rolls Royce is a major source under PSD for PM, PM₁₀, VOC, CO, NO_x and SO₂. However, PSD was not triggered by the test engine. Compliance with the NO_x limit will ensure the other pollutants will not trigger PSD.
- (b) Pursuant to Part 70 Significant Source Modification No. 097-11221-00311, issued December 28, 1999, the NO_x emissions from the Test Cell 00311-83 shall not exceed 0.1409 pounds per gallon or 62 pounds per hour and shall combust less than 567,779 gallons of Jet A fuel per twelve (12) consecutive month period. This fuel usage limitation is equivalent to 40 tons of NO_x emissions per twelve (12) consecutive month period, rolled on a monthly basis. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.
- (c) Pursuant to Administrative Amendment 097-11888-00311, issued on August 17, 2000, the following limits apply:

(1) NOx limitations (based on all boilers and turbines, Emission Units 01, 02, 03, 04, 58, 59, 60, 61, 62, 63, 64, 65, 71, 76, 79, 80 and 81): The input of natural gas and natural gas equivalents to the equipment covered in this permit shall be limited to less than 6205 MMCF natural gas per 12 month consecutive period with compliance determined at the end of each month. This usage limitation is equivalent to a potential to emit of less than 325.74 tons per year, which keeps net emissions from the 1999 amendment below 40 tons per year.

(A) For the purposes of determining compliance every million cubic feet of natural gas shall be equivalent to the following:

Natural Gas Equivalents for Nitrogen Oxide Emissions					
Emission Units	MMCF per gal #4 oil	MMCF per gal #2 oil	MMCF per MMCF landfill gas	MMCF per MMCF natural gas	MMCF per gal #6 oil
Boilers (Emission Unit ID 0070-01,02,03 and 04)	0.00023	0.00023	0.31928	N.A.	N.A.
Boilers (Emission Unit ID 0070-58 and 59)	0.00023	0.00023	N.A.	N.A.	0.00048
Boilers (Emission Unit ID 0070-62, 63, 64 and 65)	N.A.	0.00023	0.31928	N.A.	0.00060
Turbines (Emission Unit IDs 0070-80 and 81)	N.A.	N.A.	0.34130	3.90000 ^a	N.A.
Turbines (Emission Unit IDs 0070-71)	N.A.	N.A.	0.34130	4.50000 ^a	N.A.
Turbines (Emission Unit IDs 0070-76, 79)	N.A.	N.A.	0.34130	6.50000 ^a	N.A.

^a The reason there is a natural gas to natural gas conversion is that the limit was created using emission factors for the boilers. This conversion reconciles the difference in emissions between the turbines and the boilers.

and

(B) NOx emissions are limited to:

- (i) Boilers (Emission Unit ID 0070-01,02,03,04,62, 63, 64 and 65) shall be limited to 0.1 lbs/MMBtu when burning Natural Gas;
- (ii) Boilers (Emission Unit ID 0070-01,02,03,04, 58, 59, 62, 63, 64 and 65) shall be limited to 0.175 lbs/MMBtu when burning #2 fuel oil;
- (iii) Boilers (Emission Unit ID 0070-01,02,03,04,62, 63, 64 and 65)

shall be limited to 0.058 lbs/MMBtu when burning landfill gas;

- (iv) Boilers (Emission Unit ID 0070-01,02,03,04,58 and 59) shall be limited to 0.175 lbs/MMBtu when burning #4 fuel oil;
- (v) Boilers (Emission Unit ID 0070-58 and 59) shall be limited to 0.336 lbs/MMBtu when burning #6 fuel oil;
- (vi) Boilers (Emission Unit ID 0070-62, 63, 64 and 65) shall be limited to 0.447 lbs/MMBtu when burning #6 fuel oil;
- (vii) Turbines (Emission Unit ID 0070-71, 76, 79, 80 and 81) shall be limited to 0.062 lbs/MMBtu when burning landfill gas.
- (viii) Turbines (Emission Unit ID 0070-80 and 81) are limited to 0.390 lbs/MMBtu when combusting natural gas.
- (ix) Turbine (Emission Unit ID 0070-71) is limited to 0.450 lbs/MMBtu when combusting natural gas.
- (x) Turbines (Emission Unit ID 0070-76 and 79) are limited to 0.650 lbs/MMBtu when combusting natural gas.

(2) PM10 limitation for Emission Unit ID 0070-01, 0070-02, 0070-03, 0070-04, 0070-58, 0070-59, 0070-62, 0070-63, 0070-64, 0070-65, 0070-71, 0070-76, 0070-79, 0070-80 and 0070-81: The input of No.4 oil and No. 4 oil equivalents shall be limited to 37,142,800 gallons of No.4 oil per 12 month consecutive period with compliance determined at the end of each month. This usage limitation is equivalent to a potential to emit of 130 tons per year, which keeps net emissions from the 1999 amendment below 15 tons per year.

(A) For the purposes of determining compliance every gallon of No.4 oil shall be equivalent to the following:

Fuel Oil Equivalents for PM ₁₀ Emissions				
Emission Units	gal per gal #2 oil	gal per CF landfill gas	gal per CF natural gas	gal per gal #6 oil
Boilers (Emission Unit ID 0070-01, 02, 03, 04, 62, 63, 64 and 65)	0.280	0.00116	0.00088	2.60
Boilers (Emission Unit ID 0070-58, 59)	0.280	N.A.	0.00088	2.60
Turbines (Emission Unit IDs 0070-76, 79, 80 and 81)	N.A.	0.00132	0.00088	N.A.

and

- (B) PM10 emissions are limited to:
- (i) Boilers (Emission Unit ID 0070-01,02,03,04,62, 63, 64 and 65) shall be limited to 0.014 lbs/MMBtu when combusting landfill gas; and
 - (ii) Turbines (Emission Unit IDs 0070-76, 79, 80 and 81) shall be limited to 0.016 lbs/MMBtu when combusting landfill gas
- (d) Pursuant to Part 70 Significant Source Modification 097-26350-00311, issued on August 22, 2008, the PM₁₀ and PM_{2.5} emissions from the test cell 0070-N32 and the two (2) natural gas shack heaters (0070-70A and 0070-70B) shall be limited to:
- (1) The PM₁₀ and PM_{2.5} emission rates from test cell 824, identified as 0070-N32, shall each not exceed 0.01 pounds per gallon of diesel/jet fuel combusted.
 - (2) The PM₁₀ and PM_{2.5} emission rates from test cell 824, identified as 0070-N32, shall each not exceed 0.081 pounds per million cubic feet (lb/MMCF) of natural gas combusted.
 - (3) The PM₁₀ and PM_{2.5} emission rates from the two natural gas shack heaters, identified as 0070-70A and 0070-70B, shall each not exceed 7.6 pounds per million cubic feet (lb/MMCF).
 - (4) The combined total PM₁₀ emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 15 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
 - (5) The combined total PM_{2.5} emissions from test cell 824 and the two natural gas shack heaters, identified as Emission Units 0070-N32, 0070-70A, and 0070-70B, shall be less than 10 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from this modification is less than 15 tons per year of PM₁₀ and 10 tons per year of PM_{2.5} and therefore will render the requirements of 326 IAC 2-2 and 326 IAC 2-1.1-5 not applicable.

- (e) Pursuant to Significant Permit Modification No. 097-26695-00311, issued on June 5, 2009, the NOx emissions from the diesel-fired generators shall be limited as follows:
- (1) The NOx emissions from each rental diesel-fired generator with a rated output capacity of less than or equal to six hundred (600) hp shall not exceed 4.41 lb/MMBtu.
 - (2) The NOx emissions from each rental diesel-fired generator with a rated output capacity of greater than six hundred (600) hp shall not exceed 3.2 lb/MMBtu.
 - (3) The combined total NOx emissions from the rental diesel-fired generators shall be less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month. The following equation shall be utilized to determine compliance:

$$\text{NOx Emissions (ton/month)} = (4.41A + 3.2B) \times (0.14 \text{ MMBtu/gal}) \times (1 \text{ ton}/2000 \text{ lb})$$

Where:

- A = Diesel fuel usage for units with a rated output capacity of less than or equal to 600 hp (gal/month)
- B = Diesel fuel usage for units with a rated output capacity of greater than 600 hp (gal/month)

Compliance with the above limits shall limit the NOx from the rental diesel-fired generators to less than forty (40) tons per twelve (12) consecutive month period and render 326 IAC 2-2 not applicable.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit under 326 IAC 2-7, Part 70 program and has the potential to emit greater than 250 tons per year of volatile organic compounds. Therefore, pursuant to this rule, in accordance with the compliance schedule specified in 326 IAC 2-6-3, the Permittee shall submit an annual emission statement by July 1. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in the permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability – Individual Facilities

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

Since July 27, 1997, there has been no construction or reconstruction of this source because all modifications have had a net HAP emission increase of less than 10 tons per year of a single HAP and less than 25 tons per year of any combination of HAPs. Therefore, 326 IAC 2-4.1-1 does not apply.

326 IAC 4-2-2 (Incinerator Requirements)

The insignificant incinerator is subject to the requirements of 326 IAC 4-2-2 because it emits regulated pollutants. Pursuant to 326 IAC 4-2-2 (Incinerators), the insignificant incinerator shall comply with the following:

- (a) Consist of primary and secondary chambers or the equivalent;
- (b) Be equipped with a primary burner unless burning wood products;
- (c) Comply with 326 IAC 5-1 and 326 IAC 2;

- (d) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in 326 IAC 4-2-2(c); and
- (e) Not emit particulate matter in excess of five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators.

If any of the above requirements are not met, the Permittee shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

326 IAC 6.5-1-2 (Particulate Emission Limitations)

Pursuant to 326 IAC 6.5-1-2(a), the particulate matter (PM) emissions from each paint booth, identified as emission units 56Na, 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, 0070-85, and 0070-86 shall not exceed 0.03 grains per dry standard cubic foot of exhaust air.

326 IAC 6.5-6-33 (Particulate Matter Limitations Marion County: Rolls Royce Corporation)

- (a) Pursuant to 326 IAC 6.5-6-33 (Particulate Matter Limitations Marion County: Rolls Royce Corporation) the Permittee shall comply with the following emission limitations for Particulate Matter (PM):

Source	NEDS Plant ID	Point Input ID	Process	Emission Limits	
				tons per year	Lbs/million Btu
Rolls Royce Corporation	0311	02	Boilers 0070-58 and 0070-59	130.0/yr	0.15
	0311	03	Boilers 0070-62 thru 0070-65		0.15

- (b) Pursuant to 326 IAC 6.5-6-33(b), the Permittee shall comply with the following:
 - (1) Boilers 0070-58, 0070-59, and 0070-62 thru 0070-65 shall use only #6 fuel oil, #4 fuel oil, #2 fuel oil, natural gas or landfill gas as fuel.
 - (2) Boilers 0070-58, 0070-59, and 0070-62 thru 0070-65 shall have the following limitations depending upon the fuel being used:
 - (A) When using #4 fuel oil, the amount used for the listed boilers collectively shall not exceed thirty-seven million one hundred forty-two thousand eight hundred (37,142,800) gallons per year based on a three hundred sixty-five (365) day rolling figure.
 - (B) When either #6 fuel oil, #2 fuel oil, natural gas or land fill gas is used, the limitation listed in clause (A) shall be adjusted as follows:
 - (i) When using #6 fuel oil, the gallons per year of #4 fuel oil shall be reduced by two and six-tenths (2.6) gallon used.
 - (ii) When using natural gas, the gallons per year of #4 fuel oil shall be reduced by eighty-eight hundred-thousandths (0.00088) gallon per cubic foot of natural gas burned.

- (iii) When using #2 fuel oil, the gallons per year of #4 fuel oil shall be reduced by twenty-eight hundredths (0.28) gallon per gallon used.
- (iv) When using landfill gas, the gallons per year of #4 fuel oil shall be reduced by one hundred sixteen hundred thousandths (0.00116) gallon per cubic foot of landfill gas burned.

326 IAC 7-4-2 (Marion County Sulfur Dioxide Emission Limitations)

- (a) Pursuant to 326 IAC 7-4-2(27), the sulfur dioxide emissions from Boilers 0070-58, 0070-59, and 0070-62 thru 0070-65 shall be limited as follows:
 - (1) Boilers 0070-58, 0070-59, and 0070-62 thru 0070-65 shall be allowed to burn Natural gas at any time.
 - (2) Babcock and Wilcox 0070-58 and 0070-59 and Combustion Engineering Boilers 0070-62 thru 0070-65 shall burn fuel oil with a sulfur content of two and one tenths (2.1) pounds per million Btu during periods when one of the following conditions are met:
 - (A) Fuel oil is burned in no more than three (3) Babcock and Wilcox Boilers and fuel oil is not burned in any Combustion Engineering Boilers.
 - (B) Fuel oil is burned in no more than two (2) Babcock and Wilcox Boilers and no more than two (2) Combustion Engineering Boilers.
 - (C) Fuel oil is burned in no more than one (1) Babcock and Wilcox Boilers and no more than three (3) Combustion Engineering Boilers.
- (b) Pursuant to 326 IAC 7-4-2, the sulfur dioxide emissions from Boilers 0070-01, 0070-02, 0070-03, 0070-04, shall not exceed 3.99 pounds per MMBtu and 299.4 pounds per hour, respectively.

326 IAC 8-1-6 Volatile Organic Compounds (VOC)

Pursuant to 326 IAC 8-1-6, the VOC emission rate from test cell 824 (0070-N32) shall be limited to 0.21 pounds of VOC per gallon (lb/gal) of diesel/jet fuel combusted or an emission rate determined from the most recent emissions test. The VOC emissions from test cell 824 (0070-N32), shall not exceed 25 tons per twelve (12) consecutive month period with compliance determined at the end of each month. Therefore, 326 IAC 8-1-6 does not apply.

326 IAC 8-1-1 (Volatile Organic Compound)

Pursuant to 326 IAC 8-1-1(b), the actual volatile organic compound (VOC) emissions before add-on controls for the spray booths identified as 0070-N56a, 0070-10a, 0070-10b, 0070-10c, 0070-10d, 0070-84, and 0070-85 shall be limited to less than 15.0 pounds of VOCs per day.

If more than one emission limitation applies to a specific coating, then the least stringent emission limitation shall apply.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Any change or modification to the facilities which may increase the actual emissions before add-on controls shall obtain prior approval from the Office of Air Quality (OAQ).

326 IAC 8-3-2 (Cold Cleaner Operations)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the Permittee shall ensure that the following control equipment requirements are met, unless more stringent requirements are applicable under 326 IAC 8-3-5 or 326 IAC 20-6 and 40 CFR 63 Subpart T:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-3 (Open Top Vapor Degreasing Operations)

Pursuant to 326 IAC 8-3-3 (Open Top Vapor Degreasing Operations), the Permittee shall ensure that the following control equipment requirements are met, unless more stringent requirements are applicable under 326 IAC 8-3-6 or 326 IAC 20-6 and 40 CFR 63 Subpart T:

- (a) Equip the open top vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone;
- (b) Keep the cover closed at all times except when processing workloads through the degreaser;
- (c) Minimize solvent carry-out by:
 - (1) Racking parts to allow complete drainage;
 - (2) Moving parts in and out of the degreaser at less than eleven (11) feet per minute;
 - (3) Degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;
 - (4) Tipping out any pools of solvent on the cleaned parts before removal;
 - (5) Allowing parts to dry within the degreaser for at least fifteen (15) seconds or until visually dry;
- (d) Not degrease porous or absorbent materials, such as cloth, leather, wood or rope;
- (e) Not occupy more than half of the degreasers open top area with the workload;
- (f) Not load the degreaser such that the vapor level drops more than fifty percent (50%) of the vapor depth when the workload is removed;
- (g) Never spray above the vapor level;
- (h) Repair solvent leaks immediately, or shut down the degreaser;
- (i) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;

- (j) Not use workplace fans near the degreaser opening;
- (k) Not allow visually detectable water in the solvent exiting the water separator; and
- (l) Provide a permanent, conspicuous label summarizing the operating requirements.

326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)

Pursuant to 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control), the Permittee shall ensure the following requirements are met, unless more stringent requirements are applicable under 326 IAC 8-3-2:

- (a) The Permittee shall ensure that the following operating requirements are met:
 - (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
 - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent used is insoluble in, and heavier than, water.

- (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) The owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:
 - (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

326 IAC 8-3-6 (Open top vapor degreaser operation and control requirements)

Pursuant to 326 IAC 8-3-6 (Open top vapor degreaser operation and control requirements),

- (a) The Permittee shall ensure that the following control equipment requirements are met:
 - (1) Equip the degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.
 - (2) Equip the degreaser with the following switches:
 - (A) A condenser flow switch and thermostat which shuts off sump heat if condenser coolant stops circulating or becomes too warm.
 - (B) A spray safety switch which shuts off spray pump if the vapor level drops more than ten (10) centimeters (four (4) inches).
 - (3) Equip the degreaser with a permanent, conspicuous label which lists the operating requirements.
 - (4) Equip the degreaser with one (1) of the following control devices:
 - (A) A freeboard ratio of seventy-five hundredths (0.75) or greater and a powered cover if the degreaser opening is greater than one (1) square meter (ten and eight-tenths (10.8) square feet).
 - (B) A refrigerated chiller.
 - (C) An enclosed design in which the cover opens only when the article is actually entering or exiting the degreaser.
 - (D) A carbon adsorption system with ventilation which, with the cover open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air to vapor interface area and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.

- (E) Other systems of demonstrated equivalent or better control as those outlined in clauses (A) through (D). Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) The Permittee shall ensure that the following operating requirements are met:
- (1) Keep the cover closed at all times except when processing workloads through the degreaser.
 - (2) Minimize solvent carryout emissions by:
 - (A) Racking articles to allow complete drainage;
 - (B) Moving articles in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);
 - (C) Degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;
 - (D) Tipping out any pools of solvent on the cleaned articles before removal; and
 - (E) Allowing articles to dry within the degreaser for at least fifteen (15) seconds or until visually dry.
 - (3) Prohibit the entrance into the degreaser of porous or absorbent materials such as, but not limited to, cloth, leather, wood, or rope.
 - (4) Prohibit occupation of more than one-half (1/2) of the degreaser's open top area with the workload.
 - (5) Prohibit the loading of the degreaser to the point where the vapor level would drop more than ten (10) centimeters (four (4) inches) when the workload is removed.
 - (6) Prohibit solvent spraying above the vapor level.
 - (7) Repair solvent leaks immediately or shut down the degreaser if leaks cannot be repaired immediately.
 - (8) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
 - (9) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser open area unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.
 - (10) Prohibit the use of workplace fans near the degreaser opening.
 - (11) Prohibit visually detectable water in the solvent exiting the water separator.

326 IAC 9-1-2 (Carbon Monoxide Emission Limits)

Pursuant to 326 IAC 9-1-2 (Carbon Monoxide Emission Limits), the confidential document incinerator shall not be operated unless the waste gas stream is burned in a direct-flame afterburner or a secondary chamber.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

- (a) All testing requirements from previous approvals where incorporated into this renewal. The Permittee must demonstrate compliance within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up.

The following performance tests have been completed to date:

- (a) 0070-65 landfill gas test performance test completed on May 20, 2005
- (b) 0070-80 landfill gas test performance test completed on November 20, 2003
- (c) 0070-80 natural gas test performance test completed on December 11, 2001
- (d) 0070-71 natural gas performance test completed on December 11, 2001
- (e) 0070-76 natural gas performance test completed on December 1, 2000
- (f) 0070-79 natural gas performance test completed on November 29, 2000
- (g) 0070-80 natural gas test completed on November 30, 2000
- (h) 0070-01 landfill gas test completed on January 13, 2000

All other units are either not installed at this time, not yet converted to landfill gas at this time, or a test is in the process of being scheduled.

- (b) Emission Unit 0311-83, has applicable compliance monitoring conditions as specified below:
- (1) Visible emissions notations shall be performed once per day of the Test Cell 00311-83 stack exhaust during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
 - (2) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
 - (3) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

- (4) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (5) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

This monitoring condition is necessary because to ensure continuous compliance with 326 IAC 6-1.1-2(a).

- (c) Pursuant to 326 IAC 7-2-1 and 326 IAC 3-7-4 or 326 IAC 3-6. the Permittee shall demonstrate that the sulfur dioxide emissions from boilers 0070-58, 0070-59, and 0070-62 thru 0070-65 do not exceed the pounds per million Btu heat input limits in condition D.1.8. Compliance shall be determined utilizing one of the following options.
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (d) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from 0070-58, 0070-59, and 0070-62 thru 0070-65, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a), (b), or (c) above shall not be refuted by evidence of compliance pursuant to the other method.
- (e) After the initial performance tests outlined in (a) and (b), this permit does not require the Permittee to perform repetitive testing on these units. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and/or NOx limits specified in this permit shall be determined by a performance test conducted in accordance with Section C - Performance Testing.
- (g) Compliance with Condition D.1.1 and D.1.2 shall be demonstrated within 30 days of the end of each month based on the amount of fuel combusted for the most recent 365 day period.
- (h) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the fuel oil sulfur content does not exceed five-tenths percent (0.5%) by weight on emission units 0070-70c, 0070-N3 through 0070-N54, 00311-83, 0070-87 and 0070-88 when combusting distillate oil alone or simultaneous with any permitted fuel by:
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a certification;
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

- (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling; or
- (i) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the thirteen (13) MMBtu per hour heater, fifty one (51) Engine test stand cells identified as emission units 0070-N3 through 0070-N54, Test Cell 00311-83, and test cells 0070-87 and 0070-88, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

- (j) Compliance with Condition D.5.3(b) shall be determined by the following equation:

$$E_{NOx} = \sum E_{DOS}$$

$$E_{DOS} = ((G_{diesel/jet\ fuel} \times A) + (CF_{natural\ gas} \times D) + (C_{SH} \times 100)) / 2000$$

Where:

E_{NOx} = Emissions of NO_x in tons per month

E_{DOS} = Emissions of NO_x in tons per month at each different operating scenario

A = 0.40 or emission rate determined from most recent emissions test in pounds per gallon

D = 4,284 or emission rate determined from most recent emissions test in pounds per million cubic feet

$G_{diesel/jet\ fuel}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32

$CF_{natural\ gas}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32

C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (k) Compliance with Condition D.5.4 shall be determined by the following equation:

$$E_{PM} = ((G_{diesel/jet\ fuel} \times 0.01) + (CF_{natural\ gas} \times 10.4) + (C_{SH} \times 1.9)) / 2000$$

Where:

E_{PM} = Emissions of PM in tons per month

$G_{diesel/jet\ fuel}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32

$CF_{natural\ gas}$ = million cubic feet of natural gas used each month in test cell 0070-N32

C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (l) Compliance with Condition D.5.5(d) shall be determined by the following equation:

$$E_{PM10} = ((G_{diesel/jet\ fuel} \times 0.01) + (CF_{natural\ gas} \times .081) + (C_{SH} \times 7.6)) / 2000$$

Where:

E_{PM10} = Emissions of PM₁₀ in tons per month

$G_{diesel/jet\ fuel}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32

$CF_{natural\ gas}$ = million cubic feet of natural gas used each month in test cell 0070-N32

C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (m) Compliance with Condition D.5.5(e) shall be determined by the following equation:

$$E_{PM2.5} = ((G_{\text{diesel/jet fuel}} \times 0.01) + (CF_{\text{natural gas}} \times .081) + (C_{SH} \times 7.6)) / 2000$$

Where:

$E_{PM2.5}$ = Emissions of PM2.5 in tons per month

$G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32

$CF_{\text{natural gas}}$ = million cubic feet of natural gas used each month in test cell 0070-N32

C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (n) Compliance with Condition D.5.6 shall be determined by the following equation:

$$E_{SO2} = ((G_{\text{diesel/jet fuel}} \times 0.07) + (CF_{\text{natural gas}} \times 0.617) + (C_{SH} \times 0.6)) / 2000$$

Where:

E_{SO2} = Emissions of SO₂ in tons per month

$G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used each month in test cell 0070-N32

$CF_{\text{natural gas}}$ = million cubic feet of natural gas used each month in test cell 070-N32

C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (o) Compliance with Condition D.5.7 shall be determined by the following equation:

$$E_{CO} = \sum E_{DOS}$$

$$E_{DOS} = ((G_{\text{diesel/jet fuel}} \times C) + (CF_{\text{natural gas}} \times E) + (C_{SH} \times 84)) / 2000$$

Where:

E_{CO} = Emissions of CO in tons per month

E_{DOS} = Emissions of CO in tons per month at each different operating scenario

C = 1.21 or emission rate determined from most recent emissions test in pounds per gallon

E = 332.9 or emission rate determined from most recent emissions test in pounds per million cubic feet

$G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32

$CF_{\text{natural gas}}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32

C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (p) Compliance with Condition D.5.8 shall be determined by the following equation:

$$E_{VOC} = \sum E_{DOS}$$

$$E_{DOS} = ((G_{\text{diesel/jet fuel}} \times B) + (CF_{\text{natural gas}} \times F) + (C_{SH} \times 5.5)) / 2000$$

Where:

E_{VOC} = Emissions of VOC in tons per month
 E_{DOS} = Emissions of VOC in tons per month at each different operating scenario
 B = 0.21 or emission rate determined from most recent emissions test in pounds per gallon
 F = 123.9 or emission rate determined from most recent emissions test in pounds per million cubic feet
 $G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32
 $CF_{\text{natural gas}}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32
 C_{SH} = million cubic feet of natural gas used in stack heaters 0070-70A and 0070-70B

- (q) Compliance with Condition D.5.9 shall be determined by the following equation:

$$E_{VOC} = \sum E_{DOS}$$

$$E_{DOS} = ((G_{\text{diesel/jet fuel}} \times B) + (CF_{\text{natural gas}} \times F)) / 2000$$

Where:

E_{VOC} = Emissions of VOC in tons per month
 E_{DOS} = Emissions of VOC in tons per month at each different operating scenario
 B = 0.21 or emission rate determined from most recent emissions test in pounds per gallon
 F = 123.9 or emission rate determined from most recent emissions test in pounds per million cubic feet
 $G_{\text{diesel/jet fuel}}$ = gallons of diesel/jet fuel used per operating scenario in test cell 0070-N32
 $CF_{\text{natural gas}}$ = million cubic feet of natural gas used per operating scenario in test cell 0070-N32

- (r) The Permittee shall perform NO_x, CO, and VOC testing for each operating scenario within 60 days after startup but no later than 180 days after initial startup on test cell (0070-N32), when combusting diesel/jet fuel and natural gas (unless the Permittee chooses to use emission factors established in the permit) using methods as approved by the Commissioner.
- (s) The Permittee shall perform NO_x, CO, and VOC testing for each operating scenario for the new engine within 60 days after startup of the new engine on test cell (0070-N32), when combusting diesel/jet fuel and natural gas (unless the Permittee chooses to use emission factors established in the permit) using methods as approved by the Commissioner.

Compliance Monitoring

The compliance monitoring requirements applicable to this source are as follows:

- (a) Visible emission notations of the emission units 0070-58, 0070-59, 0070-62, 0070-63, 0070-64 and 0070-65 stack exhausts shall be performed once per day during normal daylight operations when burning fuel oil and hazardous waste. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 13, 2007.

Conclusion

The operation of this manufacturing and testing facility for aerospace engines shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No. T097-25529-00311.

HAP Emissions
From Surface Coating Operations

Company Name: Rolls Royce Corporation
Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241
Operating Permit Renewal No.: T097-25529-00311
Reviewer: Roger Osburn
Date: 7/16/2009

Material	Density (lb/ gal)	Usage (gal/hr)	HAP Percent by Weight						Hap Emissions (tons/yr)						
			methyl isobutyl ketone	formaldehyde	Toluene	phenol	xylene	Chromium Compounds	methyl isobutyl ketone	formaldehyde	Toluene	phenol	xylene	Chromium Compounds	Total HAPs Emissions
Deft Gray	8.22	1.00	20.00%	0.0%	0.0%	0.00%	0.00%	0.00%	7.20	0.00	0.00	0.00	0.00	0.00	7.20
Surf-Kote M1284	9.17	1.00	0.00%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Amtes RC-21	7.33	1.00	0.00%	0.0%	13.0%	0.00%	0.00%	0.00%	0.00	0.00	4.17	0.00	0.00	0.00	4.17
Blue Resin Coating	5.35	1.00	5.00%	1.0%	5.0%	3.00%	5.00%	0.00%	1.17	0.23	1.17	0.70	1.17	0.00	4.45
Aleseal 598	10.40	1.00	0.00%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AMFSN	11.92	1.00	0.00%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Siloxseal 210	9.76	1.00	0.00%	0.0%	0.0%	0.00%	5.00%	0.00%	0.00	0.00	0.00	0.00	2.14	0.00	2.14
Siloxseal 225	9.34	1.00	0.00%	0.0%	0.0%	0.00%	6.00%	3.30%	0.00	0.00	0.00	0.00	2.45	1.35	3.80
Aleseal 500	13.26	1.00	0.00%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aleseal 518	13.76	1.00	0.00%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aleseal 370	10.84	1.00	0.00%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sermabond	30.71	1.00	0.00%	0.0%	0.0%	0.00%	0.00%	0.50%	0.00	0.00	0.00	0.00	0.00	0.67	0.67
Total HAP Emissions:									8.37	0.23	5.35	0.70	5.76	2.02	22.44

Methodology

HAPS emission rate (tons/yr) = Density (lb/gal) * Maximum Usage (gal/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
Volatile Organic Compound Emissions
From Surface Coating Operations**

**Company Name: Rolls Royce Corporation
Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241
Operating Permit Renewal No.: T097-25529-00311
Reviewer: Roger Osburn
Date: 7/16/2009**

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	Transfer Efficiency
Deft Gray	9.75	47.85%	0.0%	47.9%	0.0%	0.00%	1	1	4.67	4.67	4.67	111.97	20.43	5.57	75%
Surf-Kote M1284	9.17	59.00%	0.0%	59.0%	0.0%	5.00%	1	1	5.41	5.41	5.41	129.85	23.70	4.12	75%
Amtes RC-21	7.34	88.00%	0.0%	88.0%	0.0%	12.00%	1	1	6.46	6.46	6.46	155.02	28.29	0.96	75%
Blue Resin Coating	5.35	71.20%	0.0%	71.2%	0.0%	22.60%	1	1	3.81	3.81	3.81	91.42	16.68	1.69	75%
Alseal 598	10.40	50.00%	0.0%	50.0%	0.0%	0.00%	1	1	5.20	5.20	5.20	124.80	22.78	5.69	75%
AMFSN	11.92	62.25%	0.0%	62.3%	0.0%	0.00%	1	1	7.42	7.42	7.42	178.08	32.50	4.93	75%
Siloxseal 210	9.76	62.00%	57.0%	5.0%	0.0%	23.00%	1	1	0.49	0.49	0.49	11.71	2.14	4.06	75%
Siloxseal 225	9.34	75.50%	69.7%	5.8%	0.0%	24.30%	1	1	0.54	0.54	0.54	13.00	2.37	2.51	75%
Alseal 500	13.26	63.70%	0.0%	63.7%	0.0%	36.30%	1	1	8.45	8.45	8.45	202.72	37.00	5.27	75%
Alseal 518	13.76	60.80%	0.0%	60.8%	0.0%	39.20%	1	1	8.37	8.37	8.37	200.79	36.64	5.91	75%
Alseal 370	10.84	60.00%	0.0%	60.0%	0.0%	0.00%	1	1	6.50	6.50	6.50	156.10	28.49	4.75	75%
Sermabond	30.71	70.00%	70.0%	0.0%	0.0%	50.00%	1	1	0.00	0.00	0.00	0.00	0.00	10.09	75%
Add worst case coating to all solvents													37.00	10.09	

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

**Appendix A: Emissions Calculations
Emissions
From Turbine Testing Operations**

Company Name: Rolls Royce Corporation
Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241
Operating Permit Renewal No.: T097-25529-00311
Reviewer: Roger Osburn
Date: 7/16/2009

Emission Unit ID 0070-66
 Two Turbines
 model J-71, Test
 facility 841
 Emission Unit Description
 Maximum Capacity (MMBtu/hr) 107
 Fuel Jet Fuel
 HorsePower (Mechanical) 42024.25
 Max Firing Rate 0.91
 Stack ID 8-11a, 8-11b
 Stack Flowrate 81700
 Stack Temp 600
 Control None
 Date Installed 1955
 Steps Point 811
 Heat Content (Jet Fuel) 118232
 Sulfur Content (Jet Fuel) 0.05

Emission Factors

Pollutant	Factor	Units
CO	116.8	lbs/1000 gal
SO2	13	lbs/1000 gal
VOC	86	lbs/1000 gal
NOx	67.8	lbs/1000 gal
PM	24.3	lbs/1000 gal
PM-10	11.3	lbs/1000 gal

Potential Emissions

Pollutant	Emissions Unit 0070-66a		Emissions Unit 0070-66b	
	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)
CO	105.70	462.98	105.70	462.98
SO2	11.77	51.53	11.77	51.53
VOC	77.83	340.90	77.83	340.90
NOx	61.36	268.75	61.36	268.75
PM	21.99	96.32	21.99	96.32
PM-10	10.23	44.79	10.23	44.79

Limited Potential To Emit

Emission Unit	Pollutant	Regulation	Limit	Equivalent Emissions	
				(lbs/hr)	(tons/yr)
0070-66a	PM	326 IAC 6-1-2(a)	0.03gr/dscf	21.01	92.02
0070-66a	SO2	326 IAC 7-1	0.5 lbs/MMBtu	53.50	234.33
0070-66b	PM	326 IAC 6-1-2(a)	0.03gr/dscf	21.01	92.02
0070-66b	SO2	326 IAC 7-1	0.5 lbs/MMBtu	53.50	234.33

Appendix A: Emissions Calculations
Emissions

Company Name: Rolls Royce Corporation

Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241

Operating Permit Renewal No.: T097-25529-00311

Reviewer: Roger Osburn

Date: 7/16/2009

Emission Unit ID	0070-72	0072-73	0070-05
Emission Unit Description	Plant 8 Pattern Shop	Plant 8 Carpenter Shop	Plant 5 Carpenter Shop
Maximum Capacity (ton/hr)	1	1	1
Stack ID	8-16	8-17	5-8
Stack Flowrate	9500	6500	10000
Control	Rotoclone	Cyclone	Cyclone
Date Installed	1956	1956	1969
Steps Point	816	817	13

Pollutant	SCC Number	Emission Factor	Unit
PM	30700808	2	lbs/hr
PM-10	30700808	0.8	lbs/hr

Potential Emissions

Pollutant	Emission Unit	lbs/hr	tons/yr
PM	0070-72	2	8.76
PM-10	0070-72	0.8	3.504
PM	0072-73	2	8.76
PM-10	0072-73	0.8	3.504
PM	0070-05	2	8.76
PM-10	0070-05	0.8	3.504

Limited Potential to Emit

Unit	Pollutant	Regulation	Limit	Unit	Equivalent (lbs/hr)	Equivalent (tons/yr)
0070-72	PM	326 IAC 6-1-2(a)	0.03	gr/dscf	2.44	10.70
0072-73	PM	326 IAC 6-1-2(a)	0.03	gr/dscf	1.67	7.32
0070-05	PM	326 IAC 6-1-2(a)	0.03	gr/dscf	2.57	11.26

**Emissions
From Heater Operations**

Company Name: Rolls Royce Corporation
Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241
Permit Renewal No.: T097-25529-00311
Reviewer: Roger Osburn
Date: 7/16/2009

Emission Unit ID	0070-70a	0070-70b	0070-70c	
	American Shack	American Shack	American Shack	
Emission Unit Description	Heater	Heater	Heater	
Maximum Capacity (MMBtu/hr)	93.4	93.4	90	
Max Firing Rate for Dist.	0.67	0.67	0.64	(1000 gal/hr)
Max Firing Rate for NG	NA	NA	0.09	(MMcf/hr)
Stack ID	8-6a	8-6b	8-6c	
Stack Flowrate	63000	63000	63000	(Based on Steps)
Control	None	None	None	
Date Installed	1956	1956	1956	
Steps Point	815	815	815	
Fuel	Distillate	Distillate	Distillate	Natural Gas and
Heat Content (Distillate)	140000	140000	140000	
Heat Content (Natural Gas)	1000	1000	1000	
Sulfur Content (Distillate)	0.5	0.5	0.5	

Emission Factors

Pollutant	Distillate Fuel Oil (AP-42 Sect. 1-3)		Natural Gas (AP-42 Sect. 1-4)	
	Emission Factor	Units	Emission Factor	Units
PM (filterable)	2	lbs/1000 gal	1.9	lbs/MMCF
PM-10	1	lbs/1000 gal	7.6	lbs/MMCF
NOx	20	lbs/1000 gal	100	lbs/MMCF
CO	5	lbs/1000 gal	84	lbs/MMCF
VOC	0.2	lbs/1000 gal	5.5	lbs/MMCF
SO2	71	lbs/1000 gal	0.6	lbs/MMCF

Potential to Emit - Distillate Fuel Oil

Pollutant	Emission Unit 0070-70a		Emission Unit 0070-70b		Emission Unit 0070-70c	
	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)
PM	1.33	5.84	1.33	5.84	1.29	5.63
PM-10	0.67	2.92	0.67	2.92	0.64	2.82
NOx	13.34	58.44	13.34	58.44	12.86	56.31
CO	3.34	14.61	3.34	14.61	3.21	14.08
VOC	0.13	0.58	0.13	0.58	0.13	0.56
SO2	47.37	207.47	47.37	207.47	45.64	199.92

Potential to Emit - Natural Gas

Pollutant	Emission Unit 0070-70c	
	(lbs/hr)	(tons/yr)
PM	0.17	0.75
PM-10	0.68	3.00
NOx	9.00	39.42
CO	7.56	33.11
VOC	0.50	2.17
SO2	0.05	0.24

Limited Potential To Emit

Emission Unit	Pollutant	Regulation	Limit	Equivalent Emissions	
				(lbs/hr)	(tons/yr)
0070-70a	PM	326 IAC 6-1-2(a)	0.03 gr/dscf	16.2	70.96
0070-70a	SO2	3276 IAC 7-1	0.5% S by WT.	47.37	207.47
0070-70b	PM	326 IAC 6-1-2(a)	0.03 gr/dscf	16.2	70.96
0070-70b	SO2	3276 IAC 7-1	0.5% S by WT.	47.37	207.47
0070-70c	PM	326 IAC 6-1-2(a)	0.03 gr/dscf	16.2	70.96
0070-70c	SO2	3276 IAC 7-1	0.5% S by WT.	45.64	199.92

Appendix A: Emissions Calculations

Boiler Emissions

Company Name: Rolls Royce Corporation

Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241

Operating Permit Renewal No.: T097-25529-00311

Reviewer: Roger Osburn

Date: 7/16/2009

Emission Unit ID (Boilers)	0070-01	0070-02	0070-03	0070-04	0070-58	0070-59
Maximum Capacity (mmBtu/hr)	88	88	88	88	44	44
Stack I.D. No.	5-1	5-1	5-1	5-1	8-1	8-2
Fuel Types Cable of Firing	NG, & #2#4#6 FO	NG, & #2#4#6 FO	NG, & #2#4#6 FO Coal, & #2#4#6 FC	NG, & #2#4#6 FO	NG, & #2#4#6 FO	NG, & #2#4#6 FO
Date Modified	1996* & 1999**	1996* & 1999**	1996* & 1999**	1999**	NA	NA
Emission Unit ID (Boilers)	0070-60	0070-61	0070-62	0070-63	0070-64	0070-65
Maximum Capacity (mmBtu/hr)	88	88	244	244	244	244
Stack I.D. No.	8-3	8-4	8-5	8-6	8-7	8-8
Fuel Types Cable of Firing	NG, & #2#4#6 FO	NG, & #2#4#6 FO	NG, & #2#4#6 FO	NG, & #2#4#6 FO	NG, & #2#4#6 FO	NG, & #2#4#6 FO

Emission Unit ID (Gas Turbines)	0070-71	0070-80
Maximum Capacity (mmBtu/hr)	88	244
Stack I.D. No.	8-9	8-80
Fuel Types Cable of Firing	NG & LG	NG & LG
Date Modified	1999**	NA

*Converted from coal to fuel oil and natrual gas.

Fuel	Precent Sulfur by weight	Precent Ash by weight	Heat Content of Fuel (Btu/gal or Btu/mmcf or Btu/lb)
Natural Gas	NA	NA	1000
Landfill Gas			
Coal (Bituminus)	7.64	1.68	11517
#2 Fuel Oil	1.8	NA	139000
#4 Fuel Oil	1.8	0.84	139000
#6 Fuel Oil	1.8	1.12(S)+0.37	156441

Emission Factors

Pollutant	PM (Filterable)	PM-10	SO2	NOx	VOC	CO
#2 Fuel Oil (lb/Kgal)	2	1	142(S)	24.0	0.20	5.0
#4 Fuel Oil (lb/Kgal)	7	7.17(A)	150(S)	47.0	0.20	5.0
#6 Fuel Oil (lb/Kgal)	10	7.17(A)	157(S)	47.0	0.28	5.0
Natural Gas (lb/MMcf)	7.6	7.6	0.6	100.0	5.5	84.0

Total (worst case tpy) 120 120.0 472.0 1444.0 54.0 300.0

Methodology

1 gallon of #5 Fuel oil has a heating value of 139,000 Btu, 1 gallon of #6 Fuel oil has a heating value of 150,000 Btu,

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput #2 Fuel Oil (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.139 MM Btu

Potential Throughput #5 Fuel Oil (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Potential Throughput #6 Fuel Oil (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.150 MM Btu

Potential Throughput Natural Gas (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors for #5 and #6 Fuel Oil are from AP42 Tables 1.3-1, 1.3-2 and 1.3-3 (SCC 1-01-004-01/02/03 and 1-01-004-05 and 1-02-004-04) (AP-42 Supplement E 9/98)

Emission Factors for #2 Fuel Oil are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-02-005-01/02/03) Supplement E 9/98

Emission Factors Nautral Gas are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (Supplement D 3/98)

PM Emissions are Condensable and Filterable PM

Emission From Fuel Oil Comb. (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

Emission From Natrual Gas Comb. (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Emissions

From Turbine Testing Operations

Company Name: Rolls Royce Corporation

Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241

Operating Permit Renewal No.: T097-25529-00311

Reviewer: Roger Osburn

Date: 7/16/2009

Twelve Turbines
model T-56, Test
facility D-2, 873

Emission Unit Description	
Maximum Capacity (MMBtu/hr)	27.2
Fuel	Jet Fuel
HorsePower (Mechanical)	10682.8
Max Firing Rate	0.23
Stack ID	8-13a - m
Stack Flowrate	63310
Stack Temp	900
Control	None
Date Installed	1955
Steps Point	811
Heat Content (Jet Fuel)	118232
Sulfur Content (Jet Fuel)	0.05

Emission Factors

Pollutant	Factor	Units
CO	23.82	lbs/1000 gal
SO2	6.2	lbs/1000 gal
VOC	6.7	lbs/1000 gal
NOx	67.8	lbs/1000 gal
PM	24.3	lbs/1000 gal
PM-10	4.8	lbs/1000 gal

Potential Emissions

Pollutant	Emissions Unit 0070-67 (each)		Emissions Unit 0070-67 (all)	
	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)
CO	5.48	24.00	65.76	288.03
SO2	1.43	6.25	17.12	74.97
VOC	1.54	6.75	18.50	81.01
NOx	15.60	68.32	187.17	819.82
PM	5.59	24.49	67.08	293.83
PM-10	1.10	4.84	13.25	58.04

Limited Potential To Emit

Emission Unit	Pollutant	Regulation	Limit	Equivalent Emissions	
				(lbs/hr)	(tons/yr)
0070-67(each)	PM	326 IAC 6-1-2(a)	0.03gr/dscf	16.28	71.31

Emissions from Industrial Engines

Company Name: Rolls Royce Corporation

Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241

Operating Permit Renewal No.: T097-25529-00311

Reviewer: Roger Osburn

Date: 7/16/2009

Multiple diesel-fired generators with varying capacity ratings (0070-89)

Note: The exact number of generators and the capacity rating of the generators being permitted is variable. AP-42 provides emission factors for diesel-fired generators with a capacity rating of less than or equal to 600 HP in Ch. 3.3 and for diesel-fired generators with a capacity rating of greater than 600 HP in Ch. 3.4. The calculations below are representative of one (1) diesel-fired generator rated at 600 HP using emission factors from Ch. 3.3 and of one (1) diesel-fired generator rated at 601 HP using emission factors from Ch. 3.4. The unlimited PTE is expected to be greater than these values.

Diesel Industrial Engines (HP ≤ 600 HP)

Total Heat Output (HP)	Total Heat Input* (MMBtu/hr)	Fuel Usage (kgal/yr)					
600	4.20	263					
Pollutant							
Emission Factor (lb/MMBtu)	PM**	PM ₁₀ **	PM _{2.5} **	SO ₂	NOx	VOC	CO
	0.31	0.31	0.31	0.29	4.41	0.36	0.95
Unlimited PTE (tons/yr)	5.70	5.70	5.70	5.33	81.1	6.62	17.5

**PM and PM2.5 emission factors are assumed to be equivalent to PM₁₀ emission factors.

HAPs								
Emission Factor (lb/MMBtu)	Formaldehyde	Benzene	Acetaldehyde	Toluene	Xylenes	Acrolein	1,3-Butadiene	Total PAH HAPs***
	1.18E-03	9.33E-04	7.67E-04	4.09E-04	2.85E-04	9.25E-05	3.91E-05	3.87E-03
Unlimited PTE (tons/yr)	2.17E-02	1.72E-02	1.41E-02	7.52E-03	5.24E-03	1.70E-03	7.19E-04	7.13E-02
PTE Total HAPs (ton/yr):								1.39E-01

Emission Factors are from AP 42, Chap. 3.3 Gasoline And Diesel Industrial Engines, Tables 3.3-1 and 3.3-2 (SCC 2-02-001-02, 2-03-001-01, Diesel engines).

Large Diesel Engines (HP > 600 HP)

Total Heat Output (HP)	Total Heat Input* (MMBtu/hr)	Fuel Usage (kgal/yr)	Sulfur Content (%)
601	4.21	263	0.4

Based on AP-42 for Diesel Fuel

Pollutant							
Emission Factor (lb/MMBtu)	PM**	PM ₁₀ **	PM _{2.5} **	SO ₂	NOx	VOC	CO
	0.10	0.0573	0.0573	0.404 1.01S	3.20	0.09	0.85
Unlimited PTE (tons/yr)	1.84	1.06	1.06	7.44	58.97	1.66	15.66
HAPs							
Emission Factor (lb/MMBtu)	Formaldehyde	Benzene	Acetaldehyde	Toluene	Xylenes	Acrolein	Total PAH HAPs***
	7.89E-05	7.76E-04	2.52E-05	2.81E-04	1.93E-04	7.88E-06	2.12E-04
Unlimited Potential to Emit (tons/yr)	1.45E-03	1.43E-02	4.64E-04	5.18E-03	3.56E-03	1.45E-04	3.91E-03
Total HAPs (ton/yr):							2.90E-02

Emission Factors are from AP 42, Chapter 3.4 Large Stationary Diesel and All Stationary Dual-Fuel Engines, Tables 3.4-1 through 3.4-4 (SCC 2-02-004-01, Diesel engines).

Methodology

*Engine efficiency conversion factor = 7,000 Btu/hp-hr

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

Total Heat Input (MMBtu/hr) = Total Heat Output (hp) x 7,000 Btu/hp-hr x 1 MMBtu/1,000,000 Btu

Fuel Usage (kgal/yr) = Total Heat Input (MMBtu/hr) x (1,000,000 Btu/1 MMBtu) x (1 gal/140,000 Btu) x (8,760 hrs/yr) x (1kgal/1,000 gal)

Unlimited Potential to Emit (tons/yr) = Total Heat Input (MMBtu/hr) x Emission Factor (lb/MMBtu) x (1 ton/2,000 lbs) x (8,760 hrs/yr)

Emissions

From Heater Operations

Company Name: Rolls Royce Corporation

Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241

Operating Permit Renewal No.: T097-25529-00311

Reviewer: Roger Osburn

Date: 7/16/2009

Two 90.0 MMBtu/hr American Shack Heaters

Heat Input Capacity

Potential Throughput

MMBtu/hr

MMCF/yr

180.0

1576.8

	Pollutant					
Emission Factor in lb/MMCF	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	1.5	6.0	0.5	78.8	4.3	66.2

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.656E-03	9.461E-04	5.913E-02	1.419E+00	2.681E-03

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.942E-04	8.672E-04	1.104E-03	2.996E-04	1.656E-03

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

(SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations

**Emissions
From Test Cell Operations**

Company Name: Rolls Royce Corporation
Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241
Operating Permit Renewal No.: T097-25529-00311
Reviewer: Roger Osburn
Date: 7/16/2009

Test Cell 824 (Emission Unit 0070-N32)

Fuel Flow	17,989	lb/hr
	2,645	gal/hr
Density	6.8	lb/gal

	Emission Factor (g/kg)	lb/gal
Nox	58.71	0.399
CO	178.4	1.213
VOC	31.46	0.214
PM/PM10	2.11	0.014
SO2	*	0.07

Pollutant	Emission Factor	PTE (tpy)
	lb/gal fuel	
Nox	0.40	4,626
CO	1.21	14,056
VOC	0.21	2,479
PM/PM10	0.01	166
SO2	0.07	763

Methodology

Emission factors for PM, PM10, Nox, CO, SO2, and VOC were obtained from AP-42, Section 3.2.1 (Rev. 4/73) using the highest rate of emission for the pollutant from the

commercial/military jet engines listed in AP-42.

Emission Factor (lb pollutant/gallon fuel) = AP42 emission factor (gram pollutant/kg fuel) * 0.4536 kg fuel/lb fuel * lb pollutant/453.6 g pollutant * 6.8 lb fuel/gallon

SO2 Emissions (tpy) = Fuel flow (lb/hr) * Fuel Sulfur Content (wt% (0.5%)) * MW ratio of S to SO2 (62.088/32.064) * 8760 hrs/yr * ton/2000 lbs

SO2 Emission Factor = 763 tons SO2/year * year/8760 hr * hr/2645 gal * 2000 lb/ton = 0.07 lb/gal,

PTE (tpy) = emission factor (lb/gal) x fuel flow (gal/hr) x 8760 hrs/year x 1 ton/2000 lbs

**Emissions
From Turbine Testing Operations**

Company Name: Rolls Royce Corporation
Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241
Operating Permit Renewal No.: T097-25529-00311
Reviewer: Roger Osburn
Date: 7/16/2009

Emission Unit ID 0070-68
Emission Unit Description Ten Turbines
 model T-56, Test
 facility D-3, dept
 873
Maximum Capacity (MMBtu/hr) 27.2
Fuel Jet Fuel
HorsePower (Mechanical) 10682.8
Max Firing Rate 0.23
Stack ID 8-12a -j
Stack Flowrate 63310
Stack Temp 900
Control None
Date Installed 1955
Steps Point 811
Heat Content (Jet Fuel) 118232
Sulfur Content (Jet Fuel) 0.05

Emission Factors

Pollutant	Factor	Units
CO	23.82	lbs/1000 gal
SO2	6.2	lbs/1000 gal
VOC	6.7	lbs/1000 gal
NOx	67.8	lbs/1000 gal
PM	24.3	lbs/1000 gal
PM-10	4.8	lbs/1000 gal

Potential Emissions

Pollutant	Emissions Unit 0070-68 (each)		Emissions Unit 0070-68 (all)	
	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)
CO	5.48	24.00	54.80	240.02
SO2	1.43	6.25	14.26	62.47
VOC	1.54	6.75	15.41	67.51
NOx	15.60	68.32	155.98	683.18
PM	5.59	24.49	55.90	244.86
PM-10	1.10	4.84	11.04	48.37

Limited Potential To Emit

Emission Unit	Pollutant	Regulation	Limit	Equivalent Emissions	
				(lbs/hr)	(tons/yr)
0070-68(each)	PM	326 IAC 6-1-2(a)	0.03gr/dscf	16.28	71.31

**Emissions
From Turbine Testing Operations**

Company Name: Rolls Royce Corporation
Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241
Operating Permit Renewal No.: T097-25529-00311
Reviewer: Roger Osburn
Date: 7/16/2009

Emission Unit ID	0070-69
Emission Unit Description	Four Turbines model T-56, Test facility D-4, dept 873
Maximum Capacity (MMBtu/hr)	27.2
Fuel	Jet Fuel
HorsePower (Mechanical)	10682.8
Max Firing Rate	0.23
Stack ID	8-12a -d
Stack Flowrate	63310
Stack Temp	900
Control	None
Date Installed	1955
Steps Point	811
Heat Content (Jet Fuel)	118232
Sulfur Content (Jet Fuel)	0.05

Emission Factors

Pollutant	Factor	Units
CO	23.82	lbs/1000 gal
SO2	6.2	lbs/1000 gal
VOC	6.7	lbs/1000 gal
NOx	67.8	lbs/1000 gal
PM	24.3	lbs/1000 gal
PM-10	4.8	lbs/1000 gal

Potential Emissions

Pollutant	Emissions Unit 0070-69 (each)		Emissions Unit 0070-69 (all)	
	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)
CO	5.48	24.00	54.80	240.02
SO2	1.43	6.25	14.26	62.47
VOC	1.54	6.75	15.41	67.51
NOx	15.60	68.32	155.98	683.18
PM	5.59	24.49	55.90	244.86
PM-10	1.10	4.84	11.04	48.37

Limited Potential To Emit

Emission Unit	Pollutant	Regulation	Limit	Equivalent Emissions	
				(lbs/hr)	(tons/yr)
0070-69(each)	PM	326 IAC 6-1-2(a)	0.03gr/dscf	16.28	71.31

Particulate Emissions

From Shot Blasting Operations

Company Name: Rolls Royce Corporation

Address City IN Zip: 2355 South Tibbs Avenue, Indianapolis, IN 46241

Operating Permit Renewal No.: T097-25529-00311

Reviewer: Roger Osburn

Date: 7/16/2009

Emission Unit ID	0070-N55
Emission Unit Description	Misc. Sanding and Blasting
Maximum Capacity (ton/hr)	0.2
Stack ID	SN55
Stack Flowrate	9000
Control	Dust Collector
Date Installed	1991
Steps Point	855

Emission Factors

Abrasive	lb PM /lb abrasive	lb PM10 /lb PM
Sand	0.027	0.01
Steel Shot	0.860	0.004

AP-42 Sect 13.2

Potential Emissions Before Control	Unit 0070-N55	
Pollutant	lbs/hr	tons/yr
PM	10.800	47.304
PM-10	5.200	22.776

Potential Emissions After Control	Unit 0070-N55	
Pollutant	lbs/hr	tons/yr
PM	0.108	0.473
PM-10	0.052	0.228

Limited Potential To Emit

Emission Unit	Pollutant	Regulation	Limit	Equivalent Emissions		PTE After Control (lbs/hr)
				(lbs/hr)	(tons/yr)	
0070-N55	PM	326 IAC 6-1-2(a)	0.03gr/dscf	2.31	10.14	0.108



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Pravin Patel
Rolls Royce Corporation
2355 S Tibbs Ave
Indianapolis, IN 46241

DATE: March 22, 2010

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Title V - Renewal
097 - 25529 - 00311

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
William Kliener
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

March 22, 2010

TO: Indianapolis Central Library Branch

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Rolls Royce Corporation
Permit Number: 097 - 25529 - 00311

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: March 22, 2010

RE: Rolls Royce Corporation / 097 - 25529 - 00311

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
<http://www.in.gov/ai/appfiles/idem-caats/>

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Please Note: *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
CD Memo.dot 11/14/08

Mail Code 61-53

IDEM Staff	LPOGOST 3/22/2010 Rolls Royce Corporation 097 - 25529 - 00311 final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Pravin Patel Rolls Royce Corporation 2355 S Tibbs Ave Indianapolis IN 46241 (Source CAATS) Via confirmed delivery										
2		William Kliener Rolls Royce Corporation 2355 S Tibbs Ave Indianapolis IN 46241 (RO CAATS)										
3		Marion County Health Department 3838 N, Rural St Indianapolis IN 46205-2930 (Health Department)										
4		Mrs. Sandra Lee Watson 7834 E 100 S Marion IN 46953 (Affected Party)										
5		Indianapolis Central Library Branch 40 East St. Clair Street Indianapolis IN 46204 (Library)										
6		Indianapolis City Council and Mayors Office 200 East Washington Street, Room E Indianapolis IN 46204 (Local Official)										
7		Marion County Commissioners 200 E. Washington St. City County Bldg., Suite 801 Indianapolis IN 46204 (Local Official)										
8		Ms. Janet McCabe Improving Kids Environment 3951 N Meridian Street Suite 160 Indianapolis IN 46208-4062 (Affected Party)										
9		Matt Mosier Office of Sustainability 2700 South Belmont Ave. Administration Bldg. Indianapolis IN 46221 (Local Official)										
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